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PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. I.—*Observations on Typhus Fever.* By JOHN W. STERLING, M. D., formerly Physician-in-Chief of the Marine Hospital, New York.

Can Typhus Fever be quarantined? or, *Is it possible to prevent that form of Typhus, which is usually styled* SHIP FEVER, *from being introduced into our cities by quarantine restrictions?* It is to the investigation of this question that the present paper will be principally devoted.

During the year 1852, upwards of 300,000 aliens arrived in the city of New York, of which number 118,611 were natives of Germany, and 118,131 of Ireland. The winter of this year was a very severe and sad one to many emigrants. Several passenger vessels, after having accomplished the greater distance of the voyage, in consequence of baffling winds, stress of weather, and shortness of provisions, were compelled to put back to Liverpool, where their half-famished and exhausted passengers were oftentimes obliged to reëmbark without being allowed time to recruit their shattered forces. The fatigues of this triple voyage, together with the poverty and destitution of many, of the

Irish emigrants especially, rendered their condition, when landed on our shores, truly deplorable. Numbers of them did not possess even a change of garments, so that attention to cleanliness, so essential to the preservation of health and the prevention of disease, had been too frequently neglected. Nevertheless, very few emigrants died during the passage, but many were landed at the Marine Hospital in a state of extreme exhaustion, with Typhus, or moribund. Of those who were permitted to proceed to the city, still greater numbers were subsequently sent down to Quarantine, at different times, by the agent of the Board of Health, with Typhus fever, contracted either on shipboard, or in the city; which disease, in consequence of the crowded condition of the wards of the Hospital, soon assumed pestilential malignancy: 3,040 were the subjects of it, and 513 its victims.*

As the question before us bears strongly upon the subject of the utility of quarantines, a subject at present occupying, more or less, the minds not only of the medical profession, of those engaged in commerce, and, doubtless, also of those who are, or whose friends may be, the tenants of a lazaretto; and as opportunity was afforded me, during the year under consideration, of collecting statistical data with a view of endeavoring to ascertain the period of *Incubation* of *Typhus* fever, I undertook to investigate this subject, not expecting to solve it, but with the hope of presenting some facts which might promote its solution.

With this object in view, I selected, from among the vessels which arrived at Quarantine, those from which the most

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* *Report of Commissioners of Emigration*, for 1852, p. 18.

There is a discrepancy here with the Table in the Appendix of Admissions, etc, at Marine Hospital, as this Table shows there were of—

Febris,	1,086 cases and	63 deaths.	
" Typhus,	2,527	"	513 "
Pneumonia Typhoides,	40	"	49 "

This apparent incongruity is explained, by many of the cases of simple fever assuming the form of Typhus, and of the Typhus becoming complicated with Pneumonia, after admission.

TABLE I.

A Table of Sick Emigrants, admitted into the Marine Hospital directly from sundry vessels lying at Quarantine, and indirectly from said vessels after being landed at New York, from Jan. 12th to April 30th, 1852.

NAMES OF VESSELS.	Tonnage from Custom House.	Ports sailed from.	Number of alien Passengers.	Number of deaths during the voyage.	Anchored at Quarantine.	Number of sick sent to Mar. Hosp'l from ship.	Diseases of passengers sent to M. H. directly from vessels.		Number of sick sent from city of New York to Marine Hospital.		Between what dates sent from city to Marine Hospital.	Dates when the greatest number were sent from the city to M. H
	Tons.				1852.		Typhus.	Other diseases.	Typhus.	Other diseases.	1852.	1852.
Miles	266	Hamburg	102	2	Jan. 12	12	9	3				
Great Western	1,443	Liverpool	791	8	" 14	115	60	55	92	30	Jan. 18 to April 14	Jan. 28
Yorkshire	996	"	429	9	" 15	11	3	8	18	5	" 24 — " 30	Feb. 7
Rhein	644	Rotterdam	247	2	" 16	5	3	2	10	8	" 18 — " 3	April 3
Reciprocity		Liverpool	342	7	" 24	11	5	6	39	6	" 29 — " 29	Feb. 5
E. C. Scranton	1,186	"	568	7	" 24	10	6	4	57	15	" 27 — " 6	" 2
Ashburton	1,015	"	422	9	" 25	10	2	8	35	8	Feb. 4 — " 26	" 20
Chasca		"	258	1	" 26	18	9	9	34	4	Jan. 28 — " 24	Jan. 28
Guy Mannering	1,418	"	439	1	Feb. 1	8	7	1	54	14	Feb. 2 — " 27	Feb. 7
Liverpool	1,077	"	243	4	" 15	14	4	10†	10	13	" 18 — " 29	Mar. 2
S. Morse		Glasgow	116	5	" 15	5	1	4‡	2		Mar. 8 — " 16	
A Z		Liverpool	216	8	" 16	26	3	23§	10	5	" 5 — " 24	
Everthorpe	424	Galway	166	11	" 20	28	20	8	20	7	" 6 — " 27	Mar. 12
Jenny Lind		Liverpool	203	4	" 24	12	10	2	12	5	Feb. 28 — " 29	
Princeton	1,136	"	350	3	March 2	5	5		20	4	Mar. 8 — " 26	Mar. 13
Isaac Wright	1,161	"	519	7	" 8	23	14	9	66	8	" 10 — " 27	
Garrick	895	"	390	6	" 14	12	5	7	10	1	" 27 — " 20	
Sheridan	895	"	412	0	" 30	7	1	6		5	April 1 — " 19	
Constitution	1,327	"	647	2	" 31	8	1	7	1	6	" 3 — " 29	
			6,890	96*		340	168	172	490	144		

* The ratio of mortality on board of these ships was derived from their *manifests* at the Office of the Commissioners of Emigration. It is a matter of surprise, in view of the hardships endured at sea from boisterous weather, that it was so small, being only $\frac{96}{6890}$ or $1\frac{3}{8}$ per cent.

† 9 of these were Variola. ‡ 4 ditto. § 19 ditto.

of the sick were sent, *directly* from their anchorage and *indirectly* from the city, to the Marine Hospital, during the first four months of the year 1852; which, with other data bearing upon the latency of Typhus, and derived from the Register of the Institution, are arranged in the preceding table (No. I).

On inspecting the preceding table, we perceive that 168 Typhus patients were admitted into the Marine Hospital directly from the vessels anchored at Quarantine, and 490 indirectly, after said vessels had landed their passengers in the city, and that the latter were sent down at different intervals of from two days to three months after their arrival. Now, there can be but little doubt that many of those, sent from the city to the Marine Hospital soon after their arrival, had the seeds of Typhus fever inherent in their system while on shipboard. It is doubtful, however, whether, in those who were sent down after a lapse of six weeks, or two months, this fever was incubated during the voyage, especially, as will appear in the sequel, as other *Fever Nests* were constructed in the city, which became a prolific source of this malady.

On examining the last column of the Table, we will find that by far the greater number of these sick passengers were admitted into the Marine Hospital in two or three weeks after being landed from these vessels. Hence, it is probable, we will not deviate far from the truth, by presuming that the limit of the incubation of Typhus seldom exceeds the latter period. Much, however, will depend upon the degree of concentration of the infectious poison, as well as the susceptibility of the patient.* In those who are in a state of great destitution, we must expect to find a less sound state of constitution, a more speedy access of disease, as well

* Dr. Christison, in speaking of the effects of different degrees of concentration of fever poison in the wards of the Edinburgh hospitals, says that the virulence of the infection is in proportion to the number of the fever patients to the others, and the time of exposure to it; the nurses preceding the clerks and house surgeons, these the dressers, and these the general students and physicians.

as a more violent degree of intensity; whilst those less destitute and impoverished, have greater powers of physical endurance, which will enable them to resist the pernicious effects of the deleterious agent for a longer period, or surmount it entirely.

The following interesting fact we find related by Dr. Joseph M. Smith, in his valuable paper on "Hygiene," published in Vol. iii. of the Trans. Amer. Med. Association.

"Dr. Harty," he says, "relates that a woman was confined by her husband for weeks, in a small, dark closet, without light or air, and without a change of clothes. The two gentlemen who liberated her were overpowered, while doing so, by the effluvia of the place. At the end of a week both sickened with fever; one died, the other recovered. Yet the woman who created this infectious atmosphere, though exposed to it for weeks, escaped. This example shows that the Typhus poison may not only produce the disease in one week from the time of exposure, but also, that some become gradually inured to it, their system, apparently, accommodating itself to its effects, and thereby resisting its pernicious influence.* And Dr. Bowie tells us that he "once went into a room where a woman was lying with Typhus fever, a small underground apartment, the window of which opened into a confined area or yard. To this situation she had been confined several days; the window and door were closed; none of the excretions had been removed. On entering the room, I (Dr. Bowie) was almost suffocated; the stench was intolerable. I rushed to the window and threw it open before I could speak a word. After paying my visit, when I got into the street, I was seized with headache, giddiness, and sickness. I was so ill the next morning that I was unable to rise, and was confined to my bed for several days." In this instance the infectious atmosphere, in which a Typhus patient was immersed, was well nigh producing a fever on Dr. Bowie almost instantaneously; and it is very

* See Report to both Houses of Parliament by the General Board of Health. Lond., 1849.

possible it would not have required much longer exposure to it, ere the disease would have been fully developed.

Physicians differ, however, with regard to the period that the germs of Typhus may remain dormant in the system, without manifesting themselves in the form of actual disease. To all other epidemic diseases the extra limits of incubation may be regarded as determined. Small-pox, scarlatina and measles have this period settled. With regard to the period of latency of the plague (Typhus gravissimus), Dr. Aubert says it never exceeds eight days; M. Hammont, eight or nine. Segur Dupeyren limits the extreme period of incubation of the plague to eleven, while Clot Bey fixes it at from three to six days.* Yellow fever develops itself in from two to twelve days, after infection; and pestilential Cholera in from one to ten days.† Indeed, I have had reason to believe, from my experience at the Marine Hospital, that Cholera may ensue within twelve hours after exposure.

Could the term of incubation of Typhus be ascertained with equal precision, it would afford an index for the period of probation of vessels, or rather their passengers, arriving with this disease, at Quarantine; but as Dr. Christison and several other medical authors of high repute extend this period to many months, it must remain doubtful how long it will be necessary to sequester an individual who has been exposed to its miasm, ere it will be considered safe, by those who regard this disease as contagious, to liberate him from quarantine restrictions. With regard to the *contagious character* of Typhus, it evidently produces its similitude; but whether it will do so in a pure atmosphere, where strict attention is paid to ventilation and cleanliness, is a question, one would suppose, has been almost positively decided in the negative.

With regard to its *infectious character*, this is evidently in-

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* See Encyclographie des Sc. Med., tom. xvi., 5th Series, t. ii., p. 189, and 5th Series, tom. xii., Brit. For. Med. Rev., vol. xvi., for 1843.

† N. Y. Med. Jour., vol. vii., p. 217.

creased and the malignancy of the disease highly exalted by the concentration of the poison which engenders it.

Dr. Marcet* once collected a number of cases of Typhus, in one of the wards of Guy's Hospital, for the purpose of clinical instruction, when all at once the disease began to spread to other patients and the nurses, although it had not done so when the cases were distributed throughout the hospital, and it ceased to do so when they were again distributed.

"The liability of nurses and physicians," observes Dr. Joseph M. Smith, in his Report on Hygiene, "of contracting fever in an infirmary, is generally proportionate to the number of Typhus cases admitted into the wards." Dr. Christison says that "it has been invariably remarked, that the admission of a few cases into a general ward is attended with little or no risk of the fever passing to the other inmates of the wards. But so soon as the cases exceed considerably a third of the whole, then the fever begins to show itself among the domestic attendants, and to appear among the other patients." Similar observations have been made in the N. Y. Hospital. It has been remarked, by an English writer, in reference to the admission of fever patients into general hospitals, that "it has been found safer and better to have them scattered as single cases, throughout different wards, instead of congregating them into one," and he adds that "this plan has been adopted in more than one of the London hospitals, and we have no cause to regret its adoption." (*Med. Chirurg. Rev.*, No. 105, p. 229.) Dr. Leeson, physician of St. Thomas' Hospital, in his examination before the Sanitary Committee (see *Report of Board of Health of London*, previously cited), says: "Our present practice, contrary to that of former years, is to place our typhoid cases indiscriminately among other patients, and we then depend upon good ventilation for the protection of these patients." Dr. Monro, Dr. Roberts, senior physician of St. Bartholomew's Hospital,

* See Med. Chirurg. Review.

Dr. Currie, of Liverpool, and Dr. Robert Percival, of Dublin, with many other hospital physicians, have fully tested the benefits arising from the dispersion of fever patients.

This may answer very well where there is no overcrowding, and facilities for thorough ventilation; but, during very cold weather and where the cases of fever are numerous, it cannot be done with safety to the other patients. There must, then, be fever wards, unless we wish all to be exposed to the infectious atmosphere of Typhus. The winter of 1852 was excessively cold; so much so, that the liquid medicines would frequently freeze on the tables, and notwithstanding ventilation, short of freezing the patients, was freely resorted to, yet the atmosphere of the wards was highly infectious. During this year, 8,887 patients were treated at the Marine Hospital, of which, the largest number at one time was 1,409, and the average, from January 24th to April 24th, was 1,062. Hence there was overcrowding of the wards, and ventilation could not prevent the atmosphere, around Typhus patients especially, from becoming highly pestiferous. From the 1st of June until the latter part of November, or until cold weather sets in, Typhus is not rife in the Marine Hospital, and then, during this interval, the dispersion of such cases throughout the wards is attended not only with safety but benefit.

It would put a stop to a great deal of caviling, or prevent frequent misconception, if the terms "infection" and "contagion" were precisely defined, and universally admitted by the profession. Mons. Rouchoux says: "*Contagion* consists of every communication of disease by a virus or scab, or some pus, *without regard to the proportion of the substances. Infection* is analogous to poisoning. The fevers of marshes and the Typhus afford examples of infection; variola and vaccina are contagious diseases; the virus by which these diseases are transmitted acts with the same energy, whether the dose be small or great." Here the line of demarcation between contagion and infection is drawn with a bold stroke. It is precise and intelligible.

Dr. Joseph M. Smith, in his report on Hygiene, lays down the following propositions, which he illustrates scientifically, and demonstrates conclusively:

"Typhus fever originates from human excretions.

It may arise from the excretions of persons in health.

It may arise from the excretions of persons in disease."

There were, as has been already stated, 3,040 cases of typhus fever at the Marine Hospital, during the year 1852; but this disease was not confined to the passengers who arrived in the vessels specified in our first table. Many cases originated in the hospital, and there were other sources from which a great number were derived. *Fever Nests* were fabricated in the city of New York, where typhus was hatched as well as on shipboard.

Let us look at the following table, premising that the Commissioners of Emigration are directed by law to receive into the Marine Hospital, at Quarantine, all cases of infectious and contagious diseases (itch and syphilis excepted) sent to it by the authority of the Board of Health of the city of New York.

TABLE II.

Admissions into the Marine Hospital during the first four months of the year 1852.

Admitted.	From Vessels.	From City.	From other sources*	Total.
January	204	846	28	1,078
February	91	1,058	44	1,193
March	83	870	35	988
April	57	968	25	1,050
	435	3,742	132	4,309

From which table we perceive, that of 4,309 sick emigrants, admitted into the Marine Hospital during the first four months of this year, only 439 were sent directly from vessels lying at Quarantine, whilst 3,742 were sent down to it from the city by order of the Board of Health, of which latter number, 634 only, as appears by our first table, came passengers in the vessels therein specified, and of the remain-

* Principally from Staten Island, by order of the Health Officer.

der, not a few with Typhus had been much longer in the country; so that it is evident that other *foci* of this malady existed distinct from those which were eliminated on shipboard, and no less pestiferous.

According to the Report of the Commissioners of Emigration, for 1852, p. 8, "From the middle of November, 1851, until near May, 1852, the crowd of destitute persons, many aged, many with children, thrown upon our shores in a season of unusually early, and severe, and protracted winter, made much larger provision for their aid and shelter imperatively necessary; large additional buildings in Canal and Centre streets were procured on hire or lease, and fitted up for the reception of such applicants for relief. Before the end of January, these were found insufficient, and a very large unoccupied church in Duane street was procured for four months, as also a spacious brick building on Third avenue."

From the register kept of the numbers thus aided, it appears that there were

Lodged during the month of					January,	30,872	emigrants.
"	"	"	"	"	February,	31,126	"
"	"	"	"	"	March,	28,074	"
"	"	"	"	"	April,	23,210	"

making the whole number lodged, during these four months, 113,282. From information derived from Mr. Fagan, the Superintendent, the only building occupied by these emigrants, during the month of January, was Nos. 25 and 27 Canal street, so that it must have afforded lodgings for 30,872 individuals* of various ages; the greatest number lodged on any single night (the 14th January) being 1,516, and the nightly average for the month, 996. Many were the obstacles opposed to the Commissioners in their efforts to obtain suitable shelter for these unfortunates, ere they succeeded in procuring the additional buildings specified. Hence,

* I can scarcely conceive it possible that all these persons could have been lodged in the building in Canal street. It is more probable that the building in Centre street must have received a portion of them during this month, and even admitting this, there must still have been much crowding, for, according to Mr. F., neither of them could conveniently lodge more than five hundred.

whatever may have been the amplitude of the accommodations subsequently to the first of February, there evidently was overcrowding during the previous month. Here, then, at least one or more *Fever Nests* were evidently constructed; here must have been evolved, from the skin and lungs of these masses of human beings, an atmosphere sufficiently noxious to have engendered a highly malignant malady, and from these receptacles issued many of the most formidable cases of the Typhus that were sent to the Marine Hospital. It would probably be erroneous to infer that the 113,282 emigrants nightly lodged, during the first four months of the year, were so many distinct individuals; for the census seems to have been taken diurnally and footed up at the close of each month, so that many of them were numerically repeated in the register. Furthermore, we were informed by some of the patients themselves, that a certain portion were lodged, night after night, even for weeks, so that they must have became more or less saturated with the miasmatic atoms in which they were imbedded, until disease was fully manifest. In conjunction with this cause, we must consider the despondency arising from indolence and destitution, the habits of uncleanliness to which they were too often addicted, and the effluvia arising from other effete matters, besides those of the lungs and skin, as so many adjuvants to the engendering and fostering of disease. In short, here were sufficient materials for the incubation of Typhus, without calling in the aid of foreign importation, under the title of "*Ship Fever*," to account for its origin.

From the bodies of human beings there are continually emitted atoms, which, if retained within the organism, would produce disease and endanger life. Dr. Haller estimated the quantity of excrementitious matter evolved from the lungs and skin of a single adult, in twenty-four hours, at eight pounds. Dr. Joseph M. Smith computes the daily average of the cutaneous and pulmonary exhalations at forty ounces. Now, if we take the one half of this for the night, or twelve hours, the quantity would be twenty ounces

for each individual, and which, for nine hundred and ninety-six persons, the nightly average of lodgers in the tenement in Canal street, during the month of January, the quantity of effete matters thrown off from the lungs and skin for this month would have amounted to thirty-eight thousand five hundred and ninety-five pounds avoirdupois, exclusively of the excrementary matters of urine and feces, which, doubtless, were not permitted to remain in the lodging-house. It is not very probable that, during this cold month, the ventilation was sufficiently free to carry off all the effete matters thrown off from the skin and lungs of these lodgers, or even the greater portion of it. The lodging-rooms must have been quite as much crowded as the between-decks of the Great Western, the ship from which the greatest number of sick was landed at Quarantine, and perflation could not have been more thorough in its low locality than on the turbulent billows of the boundless ocean; and if under such circumstances, at least not more conducive to health, Typhus was generated, is it necessary to resort to the supposition of the contagiousness of "Ship Fever" to account for the development of this malady?

Dr. Angus Smith has shown that, when the vapor which condenses on the walls and windows of a room, in which large numbers of persons are congregated, is examined, it is found to be impregnated with animal matter in a high state of putrefaction. The effect of respiring, over and over again, air holding such noxious matter in solution, is commonly experienced to be headache, giddiness, languor, nausea, and vomiting, and, if the breathing of such air be long continued, it may poison the blood to such a degree as to produce fever.

Such being admitted facts, we cannot avoid the conclusion that the congregation of so many thousands of individuals in a limited space, often amid accumulated filth, and in localities by no means the most eligible for health, must have produced noxious miasms, well calculated to engender and foster disease, or create those *Fever Nests* from which

most of the Typhus patients were derived who were admitted into the Marine Hospital during the first third of the year 1852, and who were far more numerous than the sick landed directly from vessels. And the latter fact is quite sufficient of itself to prove that quarantine restrictions alone cannot prevent the introduction of Typhus into our cities. To do this, as well as to arrest its propagation, we must resort to preventive measures at home, and this is most effectually done by municipal sanitary regulations, strictly enforced. The best security against the spread of epidemic fevers is an abundant and constant supply of pure air. It is not so much by contact of the healthy with the diseased that Typhus is propagated, as it is by exposure of those who are susceptible to an atmosphere infected by the diseased. "Cleanliness and ventilation," says Dr. Christison, "will speedily extinguish any epidemic;" and it is quite as true that the prevalence and mortality of Typhus are in a direct ratio to the low sanitary condition of a community. The exhalations from the human being, when brought into contact with pure air, blend with it, are diffused, and dispersed by its currents; but when confined in the crowded tenements of the poor, which are generally located in narrow streets, lanes, alleys, courts, and in the most filthy districts of a city, or pent up in close, unventilated rooms, they are retained, accumulate, and, by concentration, become highly deleterious.

Furthermore, we cannot refrain from noticing the necessity for a more liberal supply of pure water, as well as pure air, among the sanitary measures which should be adopted by our Board of Health, or municipal authorities, in order to prevent the propagation of epidemic fevers, from whatever source they may originate. One thing is evident, among the more destitute emigrants, from specimens daily exhibited at the distributing Office of the Commissioners in the Park, where we often meet with contagious and infectious diseases of every kind, that personal cleanliness is sadly neglected, and it is truly a rank offense. Yet small

blame is to be attached to the delinquents, for, unless they be washed by the rain and dried in the sun, they enjoy very few facilities for comfortable ablution. In Paris, where more attention is paid to personal cleanliness, and less drunkenness prevails among the lower class of citizens than in any metropolis in Christendom, pure water is to be had without money and without price. There fountains spout at convenient intervals, and the river Seine, as well as numerous baths, afford ample means for ablution. But in New York, how closely is the supply of this prime comfort of life and promoter of health withheld from the poor stranger and wayfarer. Probably there is no city in the world more bountifully provided, yet more niggardly served, with pure water than New York, I mean so far as the denizen of our streets or the pedestrian is concerned. To be sure, impaled fountains play sometimes in our parks, and soda water bubbles at almost every corner; but the pure, refreshing beverage, since the old-fashioned pumps were removed, is difficult of access. The hydrants at the corners, unless in case of fire, or for washing the streets, are to the thirsty stranger and pedestrian hermetically sealed, as if to compel them to resort to the soda water fount, or bar-room, to allay their thirst with drinks which are, at least, more expensive or pernicious, and thus, by being unwilling, or too diffident, to ask for that pure and cooling draught which would refresh and invigorate them, they are oftentimes led into an evil habit, which otherwise they might resist.

If, then, we desire to promote the public health, and prevent the propagation, if not the origin, of epidemic diseases in our midst, we must have an abundant supply of pure water, easy of access; plenty of fresh air, and room to breathe it freely; cleanliness, personal and municipal, and permit all immigrants to enjoy the benefit of these *non-naturals*, facetiously so called, freely.

ART. II.—*An account of the Cases of Dislocation of the Femur at the Hip-joint treated by Manipulation alone, after the plan proposed by* W. W. REID, M.D., *of Rochester, which have occurred in the New York Hospital during the past two years.* By THOMAS M. MARKOE, M. D., one of the Attending Surgeons.

IN the "Transactions of the Medical Society of the State of New York, during its annual session held at Albany, February 3d, 1852," is published a paper by William W. Reid, M. D., of Rochester, N. Y., on "Dislocation of the femur on the dorsum ilii, reducible without pullies or any other mechanical power," in which it is the object of the writer to show that this displacement can be remedied "by flexing the leg on the thigh, carrying the thigh over the sound one, upward over the pelvis, as high as the umbilicus, and then by abducting and rotating it."

The fact that luxations of the hip-joint might be reduced by manipulations, not requiring forcible extension by pullies or other mechanical contrivance, seems to have presented itself to the mind of several writers both of ancient and of modern times. The idea would appear sometimes to have been suggested by accident, and sometimes to have been the result of reasoning on the mechanism of the joint and its displacements. Such a suggestive accidental reduction occurred in the hands of Dr. Physick, and is related in Dorsey's Surgery. A patient was the subject "of dislocation of the femur directly backwards, and after very powerful efforts had been made to effect the reduction by extension, Prof. Physick, conjecturing that the head might be confined in a slit in the capsular ligament, discontinued the extending force entirely, and then, with no more force than that of his own hands, abducted the thigh, when the bone instantly slipped into its place."

A similar occurrence took place in our hospital, about the time of the introduction of the use of chloroform, in a patient with dislocated hip, under the care of Dr. Jno. C. Cheesman. While the preparations for applying mechanical force were being made, Dr. C. made some preliminary

movements of the joint, while the patient was fully under the influence of chloroform, and, unexpectedly, the head of the bone slipped into its proper place. Dr. Nathan Smith, Prof. of Surgery in Yale College, succeeded in reducing a luxated femur, by manipulating, with the thigh and leg used as a lever, after the usual plan had failed. It would seem from the report of this case, which, however, is made from memory by his son, Dr. Nathan R. Smith, that it was a deliberate and prearranged plan of procedure, though the considerations which led to its adoption are not mentioned in the record.

Chelius, in his work on Surgery, gives an outline of the views of four writers, who have proposed to effect the reduction of the dislocated hip by the hands alone of the surgeon and his assistants, and without the aid of pullies, or, indeed, of any forcible extension. Three of these gentlemen, Wattman, Kluge, and Rust, have described methods not very different from each other, which essentially consist of moderate extension with the hand, combined with movements of rotation of the axis of the limb, adduction, flexion, etc., but with the addition of force applied by a band passed around the upper part of the limb, which is committed to an assistant, and, in the different forms of dislocation, is so applied as to lift the head of the bone from its unnatural resting-place, while the other movements made with the shaft of the limb give an opportunity to the muscles, stretched by the luxation, to draw the head back into the acetabulum. Another surgeon, referred to by Chelius, Colombat, speaks of a method which he has always employed with success, in which the patient stands at a table leaning forward with his chest upon it, and the surgeon, standing behind, bends the knee with one hand, and makes the various movements of the hip-joint, while, with the other hand on the ham, he makes gradual extension by pulling downwards. By this manœuvre, he states that he dislodges the head of the bone, and without any force accomplishes its reduction. In Casper's Wochenschrift for Nov., 1849, there is an

account given by Dr. Fischer, of Cologne, of his mode of reducing luxations of the hip, which consists in flexing the femur on the trunk, and then making rotation of the limb, conjoined with adduction, or abduction, as the head of the bone is on one side or the other of the acetabulum. In the *N. Y. Journal of Medicine* for March, 1852, a Dr. Mayr is spoken of as having made use of this procedure of Dr. Fischer, without being aware of Dr. F.'s published statement.

Dr. Reid, in his paper, gives us an account of his observations on this subject, which appear to have been made entirely independent of any knowledge of the previous opinions of other writers. He speaks of his early impressions, on seeing the management of some cases of dislocated hip after the usual method, and gives his reasonings and reflections and experiments, on the muscular actions and the mechanical forces which were concerned, or might be employed, in the production and in the reduction of these displacements. He describes the steps by which he was led to the adoption of his mode of operation, and, what is most to the purpose, he gives five cases in which the operative procedure, to which he was led by reasoning, was successfully employed. It is no part of the object of this communication to criticise or to eulogize Dr. Reid's paper; but, having tested to some extent the value of the proposed plan, we feel that we owe to the profession a full statement of what appears to us to be a most valuable contribution to the art of healing. It is still less our intention to mete out the degree of praise which is due to Dr. Reid as the originator of the idea upon which the practice is founded. It would seem, from the little historical sketch given above, that the idea had occurred to others before it occurred to him, and that, therefore, the barren honor of being the first suggester of the idea, that luxations of the hip might be reduced by manipulations alone, does not belong to him. All who read his paper, however, will acknowledge, that to him belongs the higher honor, of having caused the idea to assume the

shape and value of a fact, and out of the bare suggestion to have, by patient, ingenious, and long-continued investigation and experiment, deduced an available, and, as we think, an exceedingly valuable addition to the resources of Practical Surgery.

CASE 1.—The first opportunity which presented itself for the trial of the new method, was in the case of an Irish laborer, who was brought into the New York Hospital, November 30th, 1852, with a luxation of the right thigh. He had been struck, a short time before admission, by the cow-catcher of a passing railway train, and thrown some distance, and in his fall, probably, the accident was produced. The symptoms were those of the dislocation on the dorsum ilii, the head lying rather lower down and nearer the ischiatic notch than usual. The thigh was shortened about two inches, tended across the other, with the ball of the great toe of the injured limb touching the instep of the other foot, fixed in its position, and the head of the femur was felt in the position above described when the thigh was rotated on its axis. In addition to this injury, he had received a compound fracture of the left leg, three inches above the ankle, together with a good deal of bruising of other parts of his body. The patient was etherized to the extent of complete relaxation, and Jarvis's Adjuster was applied. It broke on the first trial of extension, and was laid aside. This mischance suggested the trial of Dr. Reid's plan, which was accordingly adopted. The operator, Dr. Buck, after bending the leg upon the thigh, gradually adducted the thigh, while at the same time it was being flexed upon the trunk. Carrying the limb thus bent at the knee, and strongly adducted, over the sound thigh, by a gradual sweep over the abdomen, and then slowly and steadily abducting the limb so as to carry the knee outwards, making at the same time a rocking motion by moving the leg backward and forward, had the effect of dislodging the head of the femur from its new position, and making it approach the acetabulum; but it did not enter the socket. From the position

above indicated, the limb was now brought down slowly towards a straight position, still kept in a state of forced adduction. This last manœuvre seemed to have a very powerful influence in forcing the head towards the acetabulum, but the whole proceeding was completed without success. It was observed, however, that the head had been moved a little higher on the dorsum than it was before. The same manipulation was now again practiced more deliberately and more carefully than before, and as the limb was being brought down abducted, we had the satisfaction of seeing and hearing the reduction effected, by the head of the bone slipping into its socket. All deformity had disappeared, and the motions were free in all directions. The other injuries were properly attended to, and the recovery from the effects of the luxation was rapid and satisfactory. He finally recovered from his compound fracture also, and left the hospital with a good leg and a perfect hip.

Case 2.—An Irish laborer, aged 25, received an injury of his right hip, and a fracture of one of his clavicles, by being thrown from a railroad car, while it was in motion. He was received into the New York Hospital, December 8th, 1852, under the care of Dr. Halsted. On examination, the injury to the hip proved to be a luxation of the femur upwards and backwards on to the dorsum ilii. The patient was placed immediately under the influence of ether, and the reduction was attempted by a procedure nearly the reverse of that above described, in Case 1. The leg being flexed upon the thigh, the limb was flexed upon the trunk and carried up in a state of abduction, then across the abdomen, and being fully adducted, was, in that state, brought down to the straight position. The effect of this mode of operating, which is almost precisely that said to have been employed by Prof. Nathan Smith, was to throw the head of the bone forwards, under the anterior superior spine of the ilium, and it was quite evident that a very little more force in the same direction would have brought it upon the pubes. This plan was therefore abandoned, and Reid's manipulation was tried

carefully and without the employment of much force. On the first trial it was successful, the bone being reduced with an audible snap, as the limb was being brought down in a state of abduction. The recovery was rapid and perfect, and he was discharged, cured, January 15, 1853.

CASE 3.—Charles O. Merritt, a sailor, thirty-seven years old, of a stout, vigorous frame, was admitted to the hospital with a luxation of the femur, of twelve weeks' standing. Attempts had been made, by an excellent surgeon of this city, to reduce the bone, but without a satisfactory result. A very careful examination was given to the limb by all the surgeons of the Hospital who were present, and all agreed that the head of the femur was thrown upon the dorsum of the ilium, in the usual situation; but some doubt existed whether there might not also be an injury of the acetabulum itself. The patient being fully etherized, Reid's manipulation was tried, and, on the first trial, failed, the head seeming to remain nearly in the position it occupied before the operation was commenced. Dr. Watson, under whose care the patient was, now made a second more careful effort, using more force in making all the movements, but being particularly careful to make forced abduction while bringing down the limb from extreme flexion to the straight position. As the limb was thus descending, slight rocking motions being at the same time employed, the reduction was suddenly accomplished, the head of the bone being felt, or heard by a great number of persons, to slip into its socket. The limbs being laid side by side, all deformity had ceased, and all present were satisfied that the reduction was complete and perfect. The patient's knees were bandaged together in the usual manner, and he was placed in bed with rather more care than usual, but in less than an hour it seemed as if the joint had lost its natural appearance again in a slight degree, and the apparatus was tightened. By next morning, however, it was too evident that the original displacement had again occurred, and to its fullest extent. This had taken place in spite of the greatest

quietude on the part of the patient, who was a very intelligent, tractable person, and fully aware of the importance of keeping the joint unmoved. The manipulations were again tried several times, but without effect. The head of the bone seemed to move about freely in all directions, but could not be brought into the acetabulum. The limb was put up in the straight apparatus which we usually employ for fractures of the thigh, and extension, by the adhesive straps, was kept up so as to keep the parts, as nearly as possible, in proper position. A good deal of stiffness and swelling of the joint followed, which, however, subsided, and he was allowed to go about on the 30th January. He finally gained about as much use of the joint as if there had been a fracture of the cervix femoris. I am informed by Dr. Buck that he has since gained a very excellent use of the limb.

Case 4.—John Kelly, a laboring man, aged twenty-one years, was admitted May 22d, 1853, having been knocked down by a horse-car, by which a luxation of the left hip had occurred into the ischiatic foramen. The limb was shortened about one inch, toes turned inward, and the head of the bone felt in its new situation. The reduction was attempted by the mode described above, the man being fully relaxed by ether. The effect of the first attempt was to throw the head on to the obturator foramen, making the limb longer than the other, and producing the deformity characteristic of that dislocation. From this point, by a slight alteration of the movement, the head could be made to slip back to its original position. Between these two points it could be made to play backwards and forwards, but would not enter its socket. Dr. Post, in whose charge the patient was, then employed the usual mode of reduction, from the foramen ovale, viz., extension of the limb, combined with a lifting of the head of the bone over the edge of the acetabulum, by the help of a folded sheet passed round the upper part of the thigh. This proved successful, without resorting to the pullies. In this case the cure was very slow, and he left the

Hospital with some degree of pain and swelling about the joint. I learned that an abscess formed in or about the joint, which was opened, and when I saw him a year after, there was every appearance of seated morbus coxarius.

CASE 5.—Michael Delany, a boy aged eight years, was admitted into the house June 29th, 1853, having received very severe injuries in falling from a ladder, at the height of the third story of a house, to the ground. There was found to be a bad compound fracture of the right thigh, and simple fracture of the left. When laid upon a bed, and his clothes removed, the right thigh, which was the seat of compound fracture, was found to be in an extraordinary position. It lay obliquely across the abdomen of the boy, with the leg and foot lying up by the axilla of the left side. On examination, it was discovered that this singular position was rendered possible by the fact that the head of the femur was dislocated backwards and upwards, on the dorsum ilii. The house surgeon, to whose care the case fell on admission, took the injured limb in his hands and very carefully carried it over the abdomen to the right side, and then abducted it and brought it down towards the straight position, thereby completing the steps of Reid's manipulation, which accident had already commenced. In doing this, the head of the bone slipped into its place, and the hip gave no further trouble. The fractures of both thighs went on favorably towards a cure, and he was discharged well, August 23, 1853.

CASE 6.—John Gallagher, twenty-eight years old, a stout Irish laborer, was brought into the Hospital about half an hour after he had fallen from his cart while intoxicated. He was found to have a dislocation of the left femur upon the dorsum ilii, and was immediately sent to the operating theatre and placed fully under the influence of ether. I then proceeded to employ the manipulation above described, but as we were completing it by bringing down the limb strongly abducted, it became evident that the head of the femur was about to slip below the acetabulum into the foramen ovale, as had occurred in Dr. Post's case, No. 4. The move-

ment was therefore reversed and again more carefully tried, with the same result. On the third trial, with the view of avoiding this tendency of the head to be forced below the acetabulum, I brought down the limb in a state of very slight instead of very strong abduction, making the movement very deliberately, and accompanying it with the usual rocking motions of the limb on its axis. This plan was perfectly successful, and the bone slipped easily into its place, and the cure was rapid and perfect. All the movements in this case were made with the greatest facility, and without the necessity of employing any more force than the weight of the limb required.

After the reduction in this case, I made a dissection of the hip-joint in a recent subject. I had previously made several dissections with reference to the action of the different muscles and their condition after luxation. In this instance, however, I removed all the muscles, leaving the capsular ligament only, and then endeavored to dislocate the head of the bone. I first tried adduction, and carried the limb so forcibly over the abdomen that the knee touched the anterior surface of the thorax, but without producing luxation. On making more violent efforts in the same direction, the cervix fractured or rather cracked across within the capsule, and soon after the ligament itself tore across at its superior and posterior part, just opposite the point of yielding of the cervix. The laceration was directly across the ligament, and occupied about one-half of its circumference. As soon as this took place, the dislocation was easily effected. The neck of the femur and the trochanteric portion of it were now seen to be kept in their place by the untorn portion of the capsular ligament, which acted as a sort of fulcrum, upon which, by using the limb as the long arm, we could make the head, as the short arm, move about in any direction upon the surface of the dorsum of the ilium. On making the manipulations for its reduction, the head was observed to pass behind the acetabulum until it reached its lower margin, and if the thigh was brought down slightly abducted,

it slipped easily over this least elevated part of the margin into its socket. If, however, it was brought down very strongly abducted, the head, instead of passing into, went below the acetabulum, and passed on to the foramen ovale, as it was about to do in Gallagher's case, No. 6, and as it did repeatedly do in Kelly's case, No. 4. Still further, we observed that after we had reduced the bone it slipped very easily out of place again, and this was explained by finding that in the reduction, the head had not gone back through the rent in the capsular ligament, but, remaining outside, had pressed the capsule before it into the acetabulum. This, of course, prevented the complete reception of the head of the bone into the socket, and permitted it to slip out again with the greatest facility. This entanglement of the head in a button-hole opening of the capsular ligament is noticed by many surgeons as an obstacle to complete reduction by the old plan with the pullies, and I do not perceive that the new method offers any advantages in this particular. Might not this have been the condition of things in Merritt's hip, Case No. 3?

CASE 7.—Francis Cotbunger, an Irish turner, was admitted to the N. Y. Hospital, December 12th, 1853, with a dislocation of the right hip. The accident had occurred about four weeks previously, and had been treated in the country, as a sprain, by leeches, etc. The limb was lengthened, the toes everted, and the whole limb stood off from the body abducted, and slightly flexed, symptoms which clearly showed that the head of the bone was upon the foramen ovale. The patient being fully brought under the influence of ether, a manipulation the reverse of Reid's was employed by Dr. Halsted. The leg being bent upon the thigh, the thigh was gradually flexed upon the trunk until the knee touched the thorax. The limb was then brought down, forcibly adducted, into the straight position. By this the head of the femur was moved from the foramen ovale on to the dorsum ilii. Being in this situation, Reid's method was adopted, with the effect, however, of bringing back the head

to its original position on the foramen ovale. By a repetition of the first manœuvre, it was again thrown on the dorsum, and from there, by Reid's plan, again thrown back upon the foramen. After repeated attempts, the bone was finally reduced by the pullies from the dorsum in the usual way, this being the only instance in which the pullies or Jarvis's Adjuster have been used, since our attention has been called to the new plan. It will be noticed, however, that the limb was every time brought down in a state of forced abduction; the moderate abduction found successful in Gallagher's case, No. 6, was not tried. A good deal of swelling and pain in the joint followed these various operations. He was up and and about, however, by the 5th January, and on the 13th he was discharged, cured.

Case 8.—Hugh Doyle, a sailor, 22 years old, was admitted to the Hospital, April 22d, 1854, with a dislocation of the left thigh upon the foramen ovale. The limb was in a position of abduction, rotated outwards, with the foot resting on its outer edge. The muscles arising from the pubes and ramus of the ischium were very tense, adduction was impossible, and the prominence of the trochanter was gone. From this deformity, the position of the head, with regard to the acetabulum, was clear. He was also suffering from other severe injuries, which had been produced by the fall, in which the hip was luxated. He was put fully under the influence of ether, and the reduction was first attempted in the usual way, by Dr. Buck, by direct extension of the limb in the direction of its axis, while at the same time the upper part of the thigh was lifted forcibly outwards by means of a sheet folded round it. This had not the desired effect, and would have required the pullies to make it effectual. Another manipulation was then tried. The leg was flexed upon the thigh, and the thigh upon the trunk. The foot was then pressed forcibly outwards, thus rotating the thigh inwards on its axis, and giving the head of the bone an inclination outwards towards the ischiatic notch. The pelvis at the same time was held firm by assistants. This was

repeated twice, each time with the effect of causing the head to move considerably from its resting-place, but without entering the socket or going over to the notch. On the third time of making the manipulation, the thigh was brought down from entire flexion to a little below a right angle, and while in this position the foot was again forced outward as before. This plan proved successful, and the head of the bone slipped into its proper place in the acetabulum. This was accomplished without any considerable force or difficulty. The cure went on favorably, and without unusual symptoms.

CASE 9.—Fritz Frieze, aged 38, a German sugar refiner, came into the Hospital, May 23, 1854, with a luxation of the left thigh, which had occurred fourteen days before from a fall. The surgeon who first saw him pronounced it a mere contusion, and had allowed him to walk about, which he was able to do without much pain, though, of course, with a very great halt in his gait, and with great labor in the movements of the injured hip. As he stood erect, the left thigh inclined outwards and forwards from its proper direction, the toe of the injured limb touching the floor about ten inches from the other foot. The limb was an inch longer than its fellow, and the adductor muscles were tense. Adduction was impossible. The trochanter was fallen in towards the pelvis and thrown backwards and downwards. On making rotation, the head of the bone could be indistinctly felt moving on the foramen ovale. After having the patient fully relaxed by ether, I made some free movements of the limb in all directions, with a view of breaking down any adhesions which might exist. I then took hold of the ankle of the injured limb with the right hand, while I supported the thigh with the left; I flexed the knee to a right angle, and moving the thigh a little forwards, to relax the tense adductor, I forced the foot inwards, making, at the same time, a rocking motion of the whole limb on the pelvis. My idea was, by rotating the thigh outwards, to throw up the head of the bone towards the acetabulum, from which it could not be distant

more than an inch. This manœuvre was not successful, though carefully and repeatedly tried. We then tried the plan adopted by Dr. Buck, in Hugh Doyle's case, No. 8, with the effect of throwing the head upon the ischiatic notch. By reversing the movement, the head was easily thrown back to its previous position on the foramen, and the first manipulation was again tried, combined with a movement of strong adduction in a direction which carried the knee behind the other one. This, accompanied with the rocking motion, which we have found useful in all these replacements, accomplished the reduction on the first trial, and without the slightest violence or excess of force. The head slipped in with an audible snap, and the limb assumed its natural shape and position. The cure was rapid and perfect.

The two last cases were experimental, as we had no knowledge of any recorded precedent which gave us any assistance in their management. We were led to adopt the modes of manipulation, simply from reasoning on the effect which the movements of the thigh would produce on the position of the head of the femur. An attentive examination of the skeleton, with the head of the femur placed on the foramen ovale in the position it assumes when luxated, will show that, while the head lies upon the foramen, the neck lies along the side of the pelvis in such a manner as to bring the trochanter about opposite to, and a little below, the acetabulum. If, now, we hold the trochanter fixed with one hand, and make the two movements described in Cases 8 and 9, it will be observed that the head can be brought into place by both of them; but, at the same time, it will be observed that, when the trial is made by rotating the thigh inwards, thereby causing the head to move outwards, the head, in order to reach the socket, has to pass through a sweep of $\frac{3}{4}$ of a circle, and then crosses the lip of the acetabulum at a point where it is very prominent and very difficult to surmount. If, on the contrary, the rotation of the thigh is made outwards, so as to throw the head inwards, it has only a space of about an inch to pass through in order to

slip into place, and the portion of the brim over which it passes is much less elevated and prominent. The movement of adduction in a direction a little backwards, as employed in Case 9, has evidently the effect to lift the head over the edge of the acetabulum when the rotation has brought it to that point. It will also be noticed that in the outward sweep of the head, it has, in order to get up to the acetabulum, to pass by the ischiatic notch, into which it is exceedingly prone to slip, as actually occurred in Case 9, and also in Case 4. For these reasons, I am disposed to consider the manipulation employed in Case 9 to be the correct and most effectual one in this form of luxation, and that though in a recent and favorable case the outward movement of the head might succeed, yet that in a difficult or long-standing case it would fail entirely, or be attended, if successful, with a great degree of violence and laceration. This is a point, however, which can only be settled by more ample experience and careful experiment. From the comparative rarity of this form of luxation, this experience can only be slowly obtained, and we should feel greatly indebted to any gentleman who may have an opportunity of managing such a case by manipulation, if he would transmit to us the results of his experience.

CASE 10.—Dr. Dewitt C. Peters, late house-surgeon of the N. Y. Hospital, now of the U. S. Army, writes from Pawnee Fork River, Kansas Territory, under date of Sept. 24, 1854, "I have had one case of dislocation of the head of the femur into the ischiatic notch, which I reduced immediately after it occurred, by putting the man under the influence of ether and employing the method of Dr. Reid." The man had been thrown violently by an unruly mule he was attempting to harness.

The following letter, from Dr. W. Parker, Professor of Surgery in the University of the State of New York, adds two more valuable cases to our list.

NEW YORK, *Nov.* 10, 1854.

DEAR SIR:—In compliance with your request, I send you

an account of two cases of luxation at the hip, which I reduced after the plan proposed by Dr. Reid, of Rochester, N. Y.

Case 11.—July 11, 1853. I was called in the evening, to Mr. P—— C——, a contractor, hale, muscular, and forty years old. I found him lying on the carpet, complaining of pain. He was thrown from his carriage, by the running away of his horse. On examination, I found the left limb an inch and a half shorter than the other, and the foot turned inward. The head of the femur was in the sacro-ischiatic notch.

I put him *fully* under the influence of chloroform, and proceeded to reduce the thigh. In my first attempt, I carried the head of the bone into the foramen thyroideum. By a slight movement and without force, the head of the bone passed up to the notch. I at once made the second trial, and carried the bone into place with the utmost ease. The patient was soon at his business.

Case 12.—November 1, 1854. Mrs. K., aged forty-four, fell some eighteen feet, injured the brain and luxated the left thigh. I saw her at two P. M. Advised to dress the head, get up reaction, and I would be back in a few hours to reduce the limb. This was a luxation upon the dorsum. She was strong and muscular.

I found her in the evening warm and sensible. I applied choloroform and proceeded to reduce. I accomplished it after the plan of Dr. Reid, without any violent effort and in a most satisfactory manner. I am prepared to say, the profession are under great obligations to Dr. Reid for the plan of treatment which he has suggested and demonstrated in the reduction of luxations at the hip-joint. With the aid of *an* anæsthetic the plan is perfect. W. P.

Case 13.—Samuel Gordon, aged thirty-seven, Ireland, laborer, was brought to the N. Y. Hospital, November 22, 1854, with a luxation of the right hip, and a fracture of the right leg. The accident had occurred immediately before admission, from the falling of the wall of the Gas-

house. The head of the bone was found on the dorsum ilii, rather low down towards the ischiatic notch.

Nov. 24. The leg having been dressed firmly with pasteboard splints, so that it might not receive injury during the reduction of the hip, the patient was fully etherized and Reid's plan of reduction was tried by Dr. Watson, twice or thrice without effect. This plan was abandoned, and the pullies were faithfully and for a long time employed. The head descended, but would not pass into its socket. Thinking that Jarvis's Adjuster would give more control over the movements necessary in replacing the bone, it was applied, and with it the head of the femur was brought down so that it seemed ready to slip in, but on cutting the cord it was found unreduced. It was thoroughly tried until the steel shaft bent, but without success. Under these discouraging circumstances, the pullies were again about to be applied, when it was thought best to give Reid's plan one more trial. The manipulation was performed twice, without success. The third time it was done more deliberately and more carefully, and when the head of the bone was brought to the lower edge of the acetabulum, it was retained there for a time and the rocking motion performed in all directions, and when all seemed loose and free, the abduction was increased, without any jerk or sudden motion, and the limb brought down thus strongly abducted towards the straight position; as this was done, the head of the bone slipped into place with an audible snap.

From the small number of cases here presented, even with the addition of those recorded in Dr. Reid's paper, I do not consider that we can obtain data sufficient for the final appreciation of the new plan of reducing luxations of the hip-joint. Still, they seem to be sufficient to show us that the plan may be safely, easily and successfully applied to a certain number, and probably to a very great proportion of all the cases which occur. The cases which are related embrace every instance of dislocation of the femur which has presented itself in the Hospital during the last two years, and a

reduction was always effected without the aid of pullies, except in the one case of Dr. Halsted, No. 7, and here a modification of the manipulation, which had previously proved successful, was not tried. In Dr. Post's case, No. 4, the reduction was finally effected from the foramen ovale by the usual mode, though without the pullies, but it was brought, by the manipulation employed, to this point from the ischiatic notch, from which it would surely have required the pullies to displace it on the old plan. It is to be observed, too, that our experience has been progressive, and while, at the time Case No. 4 occurred, we did not know how to reduce the bone from the foramen ovale by manipulation alone, that we have since learned the true method of doing it, if our experience, in Cases 8 and 9, can be relied on. Though we have failed, then, in reducing, by the new plan, two cases out of the thirteen, yet I think that the record shows good reason for believing that all might have been so reduced, if we had known at the time as much as subsequent cases have taught us. The applicability of the plan to cases of long standing, is well shown in Merritt's case, No. 3, where twelve weeks had elapsed, from the time of the accident, and in which, though not permanent, the reduction was effected with comparative facility.

With regard to the rationale of the process, most of those who have written on this matter are in the main points agreed. The head of a dislocated femur is retained in its new position by a mechanism which does not exist in any other joint, and which is produced by the fact of the muscles not being inserted into the head, but into the trochanter, nearly three inches from the head, and that from this point of principal muscular insertion the neck goes off at a large angle from the axis of the shaft. From this, it happens that when the head of the femur is thrown out of its socket, the trochanter no longer stands out more prominent than before, but being held firmly by the muscles which are inserted into its base, it is prevented from rising any more than enough to let the head out of the acetabulum, while

the head and neck, slipping to the one side or the other, are found lying in such a manner that the side of the head, neck and trochanter are in contact with some part of the outer surface of the pelvis, varying, of course, in the different forms of luxation. This being borne in mind, it will be clear that any attempt at reduction, which merely brings the head of the bone to the acetabulum, will not succeed in making it enter that cavity, because of the lying-down position of the neck and trochanter against the side of the pelvis. We need, therefore, not only to bring the head over the socket, but at the same time to raise up the trochanter, and neck so as to allow the head to enter. Now, in the ordinary methods of reduction, this raising up of the trochanter, so as to put the neck in the proper direction for the head to enter its socket, is done first, by the action of the pullies, and the approximation of the head to the socket is done second, by the continuation of the extension. This raising of the trochanter is, of course, opposed strongly by the muscles inserted into its base, causing the head to be pressed more and more firmly against the pelvis, and increasing the friction, and thereby causing, by far, the greater part of the difficulty in bringing down the head to the level of the acetabulum. It is in this, principally, and I am myself disposed to say only, that any active muscular contraction opposes the reduction of a dislocation of the hip-joint. True, the large muscles around the joint are thrown into action as soon as extension is made; but this is an action excited by the extension, and, that it is a very feeble opposing force, is evidenced by the facility with which these muscles give way to the force of a single unaided arm, when a fracture of the neck of the femur is concerned, in which, of course, none of the friction alluded to can occur. This comparative action of the muscles, in fracture and in dislocation, is very strongly and appropriately insisted upon by Dr. Reid.

The process by manipulation avoids this main difficulty, and, as it were, eludes the opposition of the muscles. The trochanter, being fixed by the insertion into its base

of the pyriformis, the two obturators, the gemelli, and the upper part of the quadratus, acts as a fixed point or fulcrum, upon which, by moving the limb, the head of the bone can be made to describe a circle round the fulcrum. When we remember that this fulcrum is not, strictly speaking, a fixed point, but has a certain degree of motion of its own, we can easily see how, by means of this movable fulcrum, the head of the bone can be placed, by varying the motions of the limb, on almost any point within two inches around the acetabulum, and, of course, over the acetabulum itself. If this manipulation is made in such a way as not to raise the trochanter from lying against the pelvis, then, when the head comes over the acetabulum, a slight rotation, such as is given by the rocking motion employed, will sufficiently raise the trochanter to let the head slip in without provoking to opposition the trochanteric muscles, and if the movements be made in such a direction as to relax the stretched muscles, the whole may be accomplished without calling forth the slightest muscular opposition from the beginning to the end of the procedure. This principle, in its application to the different forms of dislocation, presents some variations. In the dislocations on the dorsum, and on the ischiatic notch, for their mechanism is for our purpose identical, the principle has its best illustration; and, if any one will take the skeleton or the dead subject, and go through the process, he will perceive that, by adduction, the tense rotators are relaxed, and that, by flexion of the thigh upon the trunk, the head is caused to pass down behind and below the acetabulum, and then, by carrying the knee out so as to abduct the limb, that the head comes toward the lower portion of the acetabulum where its margin is least prominent. At this point, I wish it to be observed, that our mode of procedure varies a little from Dr. Reid's. He recommends, when the head is brought by abduction close to the lower edge of the acetabulum, that, by the rocking movement already described, it be caused to slip in. This is well, and will probably answer

in many cases, but it failed us so completely from the first, that we were led to add the bringing down of the thigh to the straight position in a state of abduction, still keeping up the rocking motion, and it has been uniformly in the act of thus bringing down the limb, that the reduction has been accomplished. On looking at the parts in the dead subject, it will be seen that this movement of the limb, when the head has reached the lower margin of the acetabulum, tends directly to roll the head upwards over the edge and into the socket. The mechanism of the reduction from the foramen ovale has already been alluded to. I do not know of any case of reduction from the pubes.

If the proposed plan should prove, on further trial, to be as successful and as free from danger as it thus far has been, one most valuable feature of it, as a surgical resource, will be its availability. Wherever a surgeon, with his bottle of ether, can go, there the dislocated hip can be reduced, without instruments, without appliances, without assistants. I well remember finding myself, in the year 1848, in a country village in Vermont, in consultation on a case of dislocated hip of some weeks' standing, in which it was difficult for us to persuade the patient's friends that there was any thing more than a sprain of the joint. It was late on a cold autumn day, and we were about twenty miles from any place where pullies could be obtained; but, nevertheless, we made such extempore arrangements as we best could, and by the help of an old tackle-block and some bed-cord, with counter-extending bands of hanks of homespun yarn, we proceeded to attempt the reduction. If we had been heartily seconded by the friends and family, we could, I have no doubt, finally have succeeded, even with our clumsy apparatus; but the doubts and hesitations on their minds, and their unwillingness to allow the patient, a stout, muscular young woman, to be so long and so repeatedly subjected to our unsatisfactory attempts, finally decided the case against us, and we were dismissed without thanks or fee, and the poor girl's hip has never been reduced to this day. I have often

thought since, how different an aspect matters would have worn, if we could have brought the manipulation to bear upon the case, and how different a result might have been obtained for the unfortunate patient. No better illustration, however, could be given of the availability of this operation than that given in the letter of Dr. Peters, giving an account of Case 10, in which he says, that the accident occurred in the heart of Kansas Territory, five hundred miles from the nearest fort. If the poor man had depended upon pullies for the reduction of his dislocation, how much delay and suffering must he have undergone, from which he was saved by the simple fact that Doctor Peters was familiar, during his hospital course, with the management of these cases by manipulation, and was therefore able, on the spot, to effect with ease a reduction which every day's delay would have rendered more difficult.

Every thing in our experience thus far seems to indicate that this method of reducing luxations is as safe, if not safer, so far as the integrity of the joint and its after usefulness is concerned, than the reduction by forcible extension with the pullies. The method is not, however, without its dangers, and these mainly arise from the immense amount of force which can be exercised by acting on the long arm of so powerful a lever as the whole limb, while the short arm has at most a length of three inches. By the inconsiderate or misdirected action of this lever force, one of three accidents might be produced: either the muscles holding the trochanter, and thereby forming the fulcrum on which the power is applied, might be torn from their attachments; or, if they held fast, the tissues, round and among which the head passes in its movements, may be extensively lacerated or contused; or, lastly, it seems to me very possible that the neck of the bone might be broken by too violent abduction, forcing it against the side of the pelvis. Though happily these dangers are thus far only theoretical, yet the anatomy of the part shows that they are real, and each one of them might have most serious consequences. It would

not be possible to lay down any specific rules whereby these dangers are to be avoided, except by insisting on that almost universal law of surgical manipulation, that every thing is to be done with gentle moderate force, and never with sudden violence. As far as my recollection serves me, and I myself assisted in almost every case reported, we never have accomplished any thing by proceeding in a direction where great force was required to continue the movement, but have always succeeded by finding a direction in which the mere continuance of the movement, without force, has brought the head into the proper position. It will be noticed, by looking over the cases, that in many of them, before the head went into its socket, it slipped about on the outer surface of the pelvis, taking sometimes one and sometimes another of the four positions usually spoken of as the four forms of luxation of the hip. This in some instances happened several times, and in the two instances of failure, this change of position was all that could be accomplished. Now, it cannot be doubted that this extensive movement of the head of the bone must be attended with a corresponding amount of laceration and displacement of the tissues among which it passes, and although the mischief thus done may be confined to the areolar tissue in the muscular interspaces, still it is an injury which may add to the dangers of after-inflammation, and is, if possible, to be avoided. I suppose this can only be done by defining more accurately the precise method of procedure to be adopted in each case, so that no experimental or ineffectual trials shall have to be made, but the operator shall be able at once to do exactly what is necessary to bring the head of the bone to the point desired.

The above account had been prepared for the press, with the exception of Case 13, which has since occurred, when a case presented itself which offers some points so important in their bearing upon what has already been said, that I add the history here by itself, rather than incorporate it with the other cases.

CASE 14.—Patrick Barry, aged 42, was admitted to the

New York Hospital, Oct. 23, 1854, with a dislocation of the left femur, which had occurred seven weeks previously, by a fall from a rail-car while it was in motion. The symptoms were unequivocal, the limb being shortened $1\frac{3}{4}$ inches, the ball of the great toe resting on the instep of the sound foot, and the head of the bone being distinctly felt upon the dorsum of the ilium. The patient was a man of good muscular development, but the injured limb was somewhat wasted and flabby from inaction. Two days after admission he was put under the influence of ether, and Reid's manipulation was tried. The head descended as usual, until it came opposite to the lower margin of the acetabulum, but from that point, as the limb was brought down, it slipped on to the foramen ovale. The manipulation was repeated several times, with all care, varying the degree of abduction on the various trials, but without success. It was impossible to make the head rise over the lower border of the acetabulum so as to slip into its place. After numerous thorough and careful trials, the manipulation was abandoned and the pullies ordered to be applied. Before this was done, it was thought best to place the head of the bone on the foramen ovale, and from that point to try and reduce it by the usual method recommended by Sir Astley Cooper. The head was accordingly placed on the foramen, and while the upper part of the thigh was grasped by an assistant and lifted strongly outwards, I took hold of the ankle and made extension and adduction. The head seemed not to move at all under this force, and while making strong adduction a crack was heard, every thing became loose about the joint, and on examination it was evident that a fracture of the cervix had taken place, leaving the head in the foramen ovale. There was nothing further to be done but to put the limb up in the straight apparatus, hoping that, if we could obtain union, he would have as useful a limb as those ordinarily left by fracture of the cervix, and certainly a better limb than if the dislocation had been untouched. Thus far, Nov. 25, every thing has gone well, and promises union, with

a shortening of about an inch. I am sorry that we must accept this case as one of failure of the new plan after what we considered a fair trial; for myself, however, I do most profoundly believe that it failed simply because we have not yet learned enough about the manipulation to adapt it to the condition of parts concerned in this particular instance. That we shall yet acquire that knowledge, I see no reasonable ground to doubt. With regard to the fracture of the cervix, we were all surprised at the slight amount of the force which was competent to produce such a mortifying accident. It adds double force to the caution given above, when speaking of the possibility of that accident, and it is not a little remarkable that the paragraph containing that caution was written on the very morning of the day when the production of the fracture verified the necessity of the warning. Dr. Watson, in a note to me, speaks of a fact which he says, "I have on undoubted authority, viz.: from one of the professors in the School of Medicine in Toronto, Ca., that an accident, similar to that of Case 14, occurred in that city, while the surgeon was attempting to reduce a luxation of the hip by Reid's method." Finally, it must be observed that the new plan is entitled to none of the blame of the fractured cervix. The accident took place after Reid's manipulation was abandoned, and while we were attempting the reduction according to the old established and classical method.

NEW YORK, Nov. 30th, 1854.

ART. III.—*History and Observations on Asiatic Cholera in Brooklyn, N. Y., in* 1854. By JOSEPH C. HUTCHISON, M D., late Physician to the Brooklyn Cholera Hospital; Member of the New York Pathological Society, etc.

THE history of every epidemic should be chronicled soon after its termination, whilst all the attendant circumstances are fresh and readily recalled. This is especially important of Cholera, which must still be regarded as a *terra incognita* in medicine, in order that it may be compared with like epi-

demics, which have existed or may exist at different periods and in different parts of the world, with the view of enabling us to comprehend the laws which control it, the circumstances which favor its development, and, consequently, the means of averting its ravages.

The epidemic Cholera, of 1854, took its rise at Basorah, a town situated on the Tigris, at the head of the Persian Gulf, in 1851.* From this point it pursued its march of desolation westward through Asia, Europe, and across the Atlantic, with astonishing fidelity, in the same tracks which had already marked its passage. It reached the principal seaports of this country, New York, New Orleans and Quebec, in emigrant vessels, in the latter months of 1853. With the opening of spring, it gradually spread from New Orleans, up the Mississippi and its tributaries, through the Southern and Western States. During the winter and early spring months of 1854, emigrant vessels in large numbers continued to arrive at the port of New York, many of which had suffered severely from Cholera; and from this focus the disease spread throughout the Northern and Middle States, with the same merciless ferocity which had already made it a much-dreaded pestilence.

The present epidemic dates its commencement in New York during the last week in May, and it appeared in this city about the same time, May 29th. It is worthy of note, that in 1832 the disease manifested itself in New York 19 days, and in 1849, 18 days before it appeared here, whilst the present year it began here about the same time that it did in 1849.

For the information of those who may be unacquainted with the topography, etc., of the city of Brooklyn, it may be well to remark, that it is situated upon the western end of Long Island, opposite the city of New York, and is separated from it by a strait called the East River, which is about one mile in width. Its length, from northeast to southwest, is six miles, its greatest breadth four. The general surface is

* SMITH *On the Progress of Cholera, N. Y. Jour. of Med.*, Nov., 1854.

elevated from seventy to eighty feet above the level of the sea, and its hilly and stony character is indicated by its ancient name, *Breuckland*, or *broken land*. It contains a population estimated at 150,000; but since the addition of Williamsburgh and Bushwick, which has taken place since the close of the epidemic of which we write, the population amounts to 200,000, and its area has been greatly increased.

The subject of the first case, which occurred, as stated above, May 29th, was a respectable Irish female, aged 43 years, in comfortable circumstances, and of prudent habits, but residing in a filthy neighborhood, at 255 John street (5th ward). She had not been absent from home, nor had she been exposed, by direct contact, to the disease. The second case was reported June 3d, at 340 Atlantic street, (10th ward,) a comfortable and airy part of the city, and distant from the first about one and a half miles. The victim was a respectable gentleman, an agent for the Long Island Railroad Company, who was subject to disorders of the bowels, but had not, in any way, been exposed to Cholera. The third and fourth cases occurred on the 9th; one at 26 Water street (2d ward), and the other in Columbia street, near Kelsey's alley (6th ward). On the 11th four cases were reported; one in Willow street, near the 3d, and the others in the neighborhood of the corner of Water and Jay streets (5th ward). A number of other cases soon after occurred in this part of the city. The above cases all terminated fatally; they had no connection with each other, and, with the exception of the second, they occurred amongst the lower classes of foreign population inhabiting filthy localities along the borders of the East River.

As the history of the former epidemics of Cholera in Brooklyn has never been written, it has been thought that the following tables, exhibiting the weekly mortality, the number from each ward, with the ages and nativity, during the epidemics of 1832 and 1849, as well as of the present year, might prove interesting for the purposes of reference and comparison. The statistics have been obtained through the

courtesy of Dr. Wendell, Health Physician, who has kindly allowed me access to the archives of the Health Office. In 1832 there were no deaths reported except those from cholera:

1832.					1849.					1854.				
Week ending.	Cholera.	Week ending.	Cholera.		Week ending.	Total Mortality.	Cholera.	Week ending.	Total Mortality.	Cholera.	Week ending.	Total Mortality.	Cholera.	Week ending.	Total Mortality.	Cholera.
July 14	4	Sep. 1	24		June 2	42	5	Aug. 4	181	100	June 3	79	1	Sep. 2	162	35
" 21	12	" 7	17		" 9	38	4	" 11	188	98	" 10	50	3	" 9	140	31
" 28	50	" 15	14		" 16	41	8	" 18	175	90	" 17	57	15	" 16	128	14
Aug. 4	34	" 22	9		" 23	52	10	" 25	128	46	" 24	66	14	" 23	106	10
" 11	35	" 29	6		" 30	78	19	Sep. 1	84	26	July 1	79	24	" 30	102	11
" 18	38	Oct. 6	5		July 7	70	30	" 8	67	18	" 8	110	54	Oct. 7	85	4
" 25	25	" 13	1		" 14	88	47	" 15	66	7	" 15	220	80	" 14	80	---
					" 21	169	76	" 22	41	4	" 22	233	73	" 21	63	4
					" 28	116	32				" 29	260	94	" 28	87	2
											Aug. 5	263	73	Nov. 4	74	3
											" 12	192	55			
											" 19	206	50			
											" 26	185	28			
Total			274		Total				1624	650	Total				3037	678

It is seen, in the above table, that the disease rushed more rapidly to its climax in 1832 than in the succeeding epidemics. In 1849 it reached its height during the tenth week from its commencement. This was also true in New York, Boston, and Philadelphia.* The recent epidemic here arrived at its acme during the ninth week of its prevalence, whilst in New York its period of greatest intensity was during the tenth week, as in 1849.

Meteorological Phenomena.—The following meteorological observations, made during the recent "Cholera season," are derived from the *New York Medical Times*, and from the very complete records of Dr. James M. Minor, of this city:

Mean Temp. for the 4 weeks ending June 24,	70°;	average for same time last 8 years,	69½°
Inches of rain " " "	2·4;	" " " "	3·5
Mean Dew point below air Temp. "	14°.		
Mean Temp for the 4 weeks ending July 22d,	76°;	average for same time last 8 years,	74½°
Dew point below air Temp " "	14°.		
Inches of rain in July,	1·71.		
Mean Temp for 5 weeks ending August 26,	76°;	average for same time last 8 years,	73·8°
Dew point below air Temp. " "	17°.		
Inches of Rain. " "	1·25;	average for same time last 8 years,	4·1
Mean Temp. for 4 weeks ending September 23,	71°;	" " " "	67½°
Mean Dew point below air Temp. "	11 3-5°.		
Inches of Rain " " "	2⅝;	same time last year,	5½
Mean Temp for 4 weeks ending October 21,	61°;	average for same time last 8 years,	54°
Dew point below air Temp. " "	13°;	same time last year,	13½°
Inches of Rain " " "	1 1-20;	mean for last 8 years,	2·1-10
Mean Temp. for the 4 weeks ending Nov. 18th	49½°;	" " "	49°
Dew point below air Temp. " "	9°;		8½°
Inches of Rain " " "	4½;	" " "	3½

* See *New York Jour. of Med.*, Nov., 1849.

It is thus seen that the atmospheric temperature, during the recent epidemic, was above the average for the last eight years. The excessive dryness of the season is also worthy of note. The spring months were very wet, 11·12 inches of rain having fallen in April, and 5·43 in May, according to Dr. Minor.

In the records of the Health Office, for 1849, the only fact which can be obtained, in relation to the ages of persons who died of Cholera, is, that 150 were children and 500 adults. From this we may infer that the chief mortality occurred, as usual, in the meridian of life.

1832.						1854.					
Ages of persons who died of Cholera.	Males and Females.	Per cent.	Ages of persons who died of Cholera.	Males and Females.	Per cent.	Ages of persons who died of Cholera.	Males and Females	Per cent.	Ages of persons who died of Cholera.	Males and Females	Per cent.
Under 10 yrs	44	16·06	From 50 to 60	21	7·36	Under 5 yrs	40	5·90	From 40 to 50	108	15·91
From 10 to 20	18	6·57	" 60 to 70	16	5·84	From 5 to 10	26	3·83	" 50 to 60	70	10·32
" 20 to 30	40	14· 6	Over 70	11	4·01	" 10 to 20	55	8·11	" 60 to 70	33	4·86
" 30 to 40	78	28·46	Unknown	6	2·19	" 20 to 30	144	21·38	Over 70	12	1·77
" 40 to 50	40	14· 6				" 30 to 40	172	25·37	Unknown	18	2·65
Total				274		Total				678	

The above tables coincide with what is usually observed of Cholera—that it selects for its victims more especially those who have attained to vigorous manhood.

The 11 wards in the following table represent the city of Brooklyn as it was before the consolidation of Williamsburgh and Bushwick with it, since which time the 6th ward has been divided and others added. It should also be remarked, that the table exhibiting the mortality in the different wards, in 1849, is not compiled from returns actually made to the Health Office, but is based on the number of cases furnished by the different wards to the Cholera Hospital, which, judging from the relation which exists between the number of cases sent from each ward to the hospital, and the total number of deaths in each ward for the present year, may be regarded as very nearly correct.

1832.		1849.				1854.			
No. of deaths in each Ward.		No. of deaths in each Ward.		Per cent.	No. of deaths in each Ward.	Per cent.	No. of deaths in each Ward.		Per cent.
The village was not at this time divided into Wards. Most of the population resided in what is now known as the 1st, 2d, and 5th Wards, and the disease chiefly prevailed there.		1st W'd	140	21·53	8th W'd	12	1·84	1st W'd	11	1·32	8th W'd	36	5·30
		2d "	70	10·76	9th "	10	1·53	2d "	59	8 74	9th "	27	3·98
		3d "	10	1·53	10th "	90	13 77	3d "	8	1 17	10th "	42	6·19
		4th "	10	1·53	11th "	96	14·76	4th "	20	2·94	11th "	57	8·55
		5th "	30	4·59				5th "	103	1 › 19	Vessels in		
		6th "	175	26 92				6th "	234	34·49	Port --	2	0 29
		7th "	7	1 07				7th "	47	6·93	Unkno'n	32	4·71
Total	274	Total				650		Total				678	

The value of the above table would have been very much increased, if we could have given, in addition, the area and the population of each ward, but this could not be obtained in time for the present purpose. It is well known, however, that the disease chiefly prevailed in the unhealthy localities along the water-front of the city, amongst a degraded class of population, who are closely packed in the ill-ventilated apartments of tenant-houses, or in shanties in the suburbs, with goats and pigs, inhaling noisome miasms instead of the pure air of heaven, and subsisting on food insufficient in quantity and of inferior quality.

The mortality in the 1st ward, in 1849, occurred principally in Furman street, which runs along the water-edge, at the base of the "Heights," and is inhabited by the lower classes.

1832.			1849.			1854.					
Nativity.		Per cent.	Nativity (of persons admitt. into the hospital).		Per cent.	Nativity.		Per cent.	Nativity.		Per cent.
Unit. States	166	60·69	Unit. States	15	11·54	United States	135	20 00	Wales	2	0·3
Ireland	63	23·00	Ireland	100	76·92	Ireland	408	60·18	Portugal.	1	0·15
England	26	9·49	England	3	2· 3	England	38	5 60	Saxony	1	0 15
Scotland	4	1·46	France	1	0·77	Germany	31	4·57	France	1	0·15
France	2	0·72	Germany	10	7·69	Scotland	14	2·06	Italy	1	0·15
Germany	2	0·72	Unknown	1	0·77	Holland	4	0·59	Switzerland	1	0·15
West Indies.	1	0·36				Prussia	4	0·59	Unknown	31	4·57
Brit. Possess.	1	0 36				Sweden	3	0·44			
Unknown	9	3·25				Brit. Possess.	3	0·44			
Total	274		Total	139		Total		678			

Notwithstanding the Board of Health adopted stringent measures to compel the prompt report of all cases of Cholera that occured in the city, it is very well known that

many physicians, as during the former epidemics, reported only those cases that died or that they supposed would die. It is impossible, therefore, to ascertain accurately the whole number of cases that occured.

The comparative extent of the disease, in '32, '49, and '54, is shown in the following table.

1832.			1849.			1854.		
Population.	Deaths	Ratio of deaths to population.	Population.	Deaths.	Ratio of deaths to population.	Population.	Deaths.	Ratio of deaths to population.
17,000	274	1 in 62	90,000	650	1 in 138½	150,000	678	1 in 221½

After the above preliminary statistical details of interest in the general history of Cholera, I will recur to the particular facts relating to the recent epidemic.

The approach of Cholera this year was not heralded by the general appearance of mild affections of the bowels, which preceded for a short time the appearance of the former epidemics. Indeed, this fact was so obvious as to induce the impression generally amongst physicians, in the early part of the season, that the disease would not assume an epidemic character, and the necessity of opening a Cholera hospital was questioned by some. The allied diseases of the bowels increased nearly *pari passu* with Cholera, until it reached its climax, and gradually declined with it. In the latter respect it differed widely from the last epidemic. It was observed here, in 1849, as well as in New York, Boston, and Philadelphia, that the cognate diseases did not decline (as they had increased) in the same ratio with Cholera, and dysentery followed it in an epidemic form. *(See N. Y. Jour. of Med., Vol. III., p. 414, New Series.)*

It is often asserted that, when Cholera prevails as an epidemic, all kindred diseases are swallowed up by it; but this was not true in Brooklyn, as above stated; nor was it true in the other principal cities of this country, as will be seen by examining the valuable tables contained in the Journal just referred to. On the contrary, the other diseases of

the bowels were positively increased, under the influence, perhaps, of the same specific cause which produces Cholera. This is further shown by the following table, compiled from the valuable "Semi-Centennial Table of Mortality in New York," which has been lately issued from the Office of the City Inspector:

Disease.	First Period.			Second Period.			Third Period.	
	1831.	1832.	1833.	1848.	1849.	1850.	1853. First 11 months.	1854.
Cholera	----	3513	----	2	5071	57	21	
Diarrhœa	142	104	55	432	783	437	652	
Dysentery	156	136	87	739	1256	792	742	
Cholera Morbus	----	93	10	43	241	44	71	
Cholera Infantum	1.2	334	129	505	926	713	916	

CHOLERA IN THE HOSPITAL IN 1854.

On the 26th of June a Cholera hospital was opened in Lafayette avenue, and its medical department placed under the supervision of the writer. It was closed September 30th. During this period 170 persons were admitted: in June, 7; in July, 83; in August, 56; in September, 24.

The following table exhibits the condition of the patients on admission, the number died and discharged, and the per centage:

Condition when admitted.	Admitted.		Died.		Discharged.		Total.			Per centage.	
	Male.	Female.	Male.	Female.	Males.	Female.	Admit.	Died.	Disch.	Died.	Disch.
First Stage	8	10	--	--	8	10	18	--	18	-----	100·
Partial Collapse	10	7	1	--	9	7	17	1	16	5·88	94·12
Complete Collapse	45	55	37	45	8	10	100	82	18	82·00	18·00
Consecutive Stage	6	3	2	3	4	--	9	5	4	55·55	44·44
Other diseases	16	10	5	4	11	6	26	9	17	34·61	65·39
	85	85	45	52	40	33	170	97	73	57·06	42·94

Of the 82 deaths occurring amongst those admitted in complete collapse, 23, or 28 per cent. reacted and died of consecutive diseases, which are analyzed in the following table:

Persons admitted in complete collapse.	Per cent.	Persons admitted in complete collapse.	Per cent.
Died in collapse 59	71·95	Died with dysentery 5	6·1
" with congestion of brain ... 10	12 2	" " other diseases 4	4 9
" " consecutive fever 4	4·9	Total 82	

A majority of the cases put down as having died from congestion of the brain, also had prolonged suppression of urine, and it is not improbable that the affection of the brain was owing, to some extent at least, to the poisonous influence of urea. The dysenteric affection was of a peculiar character. The evacuations consisted, in many cases, of almost pure blood, which had a bright, fresh appearance, and was discharged without the tormina and tenesmus which usually attend the disease. This affection was most prevalent toward the close, whilst consecutive congestion of the brain was chiefly confined to the early part of the epidemic.

It is proper to remark that cases admitted with diarrhœa, which might have terminated in Cholera if they had not been treated, are included under the head of other diseases; and those admitted in *articulo mortis*, amounting to a considerable number, are put under the head of complete collapse. The small per centage of deaths amongst those admitted before extreme collapse was reached, amounting to 1 in 35 cases of well-marked Cholera, or 5·88 per cent., strikingly illustrates the importance of early treatment.

The great number admitted in complete collapse is owing, in some degree, to the distance that many were brought; a large proportion coming from a remote section of the 6th ward, having left home, perhaps, in a condition that was curable, if they could have had suitable medical attention and proper hygienic influences surrounding them. The jolting over rough pavements whilst laboring under a formidable disease, in which the utmost quietude should be observed, contributed materially to increase its intensity. Most of those admitted with consecutive and other diseases were in a condition by no means favorable for their recovery.

SYMPTOMS AND PHENOMENA.

Without entering into a detail of the symptoms presented by the Cholera of 1854, in this city, which, in its general character, coincides with the usual descriptions of the disease, it may be well to call attention to such observations as are deemed of particular interest.

Evacuations.—In about one-fourth of the cases in which vomiting was noted, there was discharged a greenish fluid, resembling a solution of sulphate of iron. It was sometimes acid, and at other times neutral, and in no case examined was the presence of bile indicated by the usual tests. It was observed in 21 cases, of which 15 were females, and 3 died, 6 were males, of which 2 died. In all cases that vomited the character of fluid in question, the emesis was obstinate and prolonged, continuing in some cases almost incessantly for two or three days. The discharges from the bowels were usually of the rice-water character; but in 36 cases out of 93, in which it was particularly noted, the dejections were of a thin yellow or mahogany color, and such cases were much the most likely to terminate fatally. Not the slightest trace of albumen was indicated, by heat, nitric acid, or ferrocyanide of potassium, in any discharge examined; fibrine was also absent, and instead of being invariably alkaline, as is often asserted, they gave, in many instances, a decidedly acid reaction. An abundant precipitate of chloride of sodium was thrown down by nitrate of silver, which was redissolved by the addition of ammonia.

Contraction of the Pupils was observed in a large number of cases, and was regarded as a sufficient reason for an unfavorable prognosis, although the other symptoms may not have been very alarming. It was observed often, independently of any other evidence of cerebro-spinal disorder.

Cramps were present, more or less, in a great majority of cases, but they were less violent and persistent than in 1849. Indeed, in no instance were they so excruciating and prolonged, as was frequently seen from the very commencement of the evacuations, in an epidemic at that time witnessed by the writer in the Mississippi valley—an epidemic, I may remark *en passant*, which has been rarely equaled and never exceeded in malignity by any that has prevailed on this Continent; 9·2 per cent. of the population within its range having fallen victims to its ravages.*

* See Report on Cholera by the writer—*St. Louis Med. and Surg. Journal*, Nov., 1853.

The Mammary Secretion formed an exception to the general suppression of the secretions; this was also observed by Dr. Buel, in the epidemic of 1849. Two females with nursing infants were brought to the Hospital, one of which supplied her child with nourishment, until she was so prostrated with the disease that she could no longer attend to it; in the other case, the infant was removed from the mother soon after admission, and particular attention was necessary in order to prevent the development of a mammary abscess.

Copious Diaphoresis occurred in only 8 cases. Singultus was noted in 4 cases, all of which recovered; and the catamenia appeared in 3 cases as soon as convalescence began—in one for the first time.

Hour of Attack and Death.—The hour of attack was ascertained in 79 cases, and the exact hour of death noted in 73 cases, as seen in the following table. The hour of attack given is the period assigned by each individual at the commencement of his illness, and may not, therefore, be strictly correct; for certain individuals, unwilling to believe they were suffering from Cholera, might date the period of attack some time subsequent to the actual invasion. And for the same reason, the duration of the disease may not have been accurately ascertained.

	A. M.													P. M.											
Hour of attack....	1	2	3	4	5	6	7	8	9	10	11	12	Total.	1	2	3	4	5	6	7	8	9	10	11	12	Total.
No of pers's.	2	4	2	2	9	5	3	7	5	4	3	11	55	0	1	5	3	2	2	1	0	3	4	2	1	24
Hour of death	1	2	3	4	5	6	7	8	9	10	11	12	Total.	1	2	3	4	5	6	7	8	9	10	11	12	Total.
No of pers's.	1	2	4	2	2	1	0	3	2	3	3	4	27	2	2	8	2	5	5	5	5	3	5	2	2	46

The duration of the disease was ascertained in 94 cases. In 41 cases, not fatal, the average duration was 54·83 hours; the shortest 16 hours and the longest 14 days. In 53 fatal cases, the average duration was 48 hours; the shortest 4 hours, the longest 17 days. The duration of the disease was influenced by the peculiar nature of the secondary affections, as well as the age and constitutional peculiarities of individuals.

Is Cholera contagious?

It does not comport with the purpose of this article to enter into a discussion of the question of contagion; in the present state of science it must remain undecided. It is sufficient to state here, that no striking evidence of personal communicability was observed in the recent epidemic. That Cholera cannot be communicated by *inoculation* would seem to be very well settled by the courageous experiments of certain French and Polish physicians, which consisted in tasting the effused liquids, and inoculating themselves with the blood of patients who subsequently died with the disease. Schmidt states that, within his own knowledge, a drunken man by mistake swallowed half a beer glass of the vomited matters, slept away his drunken fit, and remained well.* It is also well known that ineffectual attempts have been made to communicate the disease to the inferior animals, by injecting fresh Cholera blood and the rice-water fluid into their veins. The *portability* of Cholera is also very well established, by a large amount of evidence already familiar to the profession.

Is Cholera invariably preceded by Premonitory Diarrhœa?

In a pamphlet on this subject, recently issued from the London press by David Macloughlin, M. D., it is stated, as the result of an investigation into the previous state of health of 3,902 cases of Cholera in 1849, also a number of cases in 1848 and 1832, as well as in the epidemic of 1853–4, in London, "that in every case of Cholera, a diarrhœa for a *few hours*, or for a *few days*, or for a *few weeks* precedes and gives the patient warning that an attack of spasms, vomiting, etc. —that an attack of Cholera, in fact—is coming on." A similar opinion had been long entertained by many persons, and it is now becoming more general. Its correctness, however, with proper deference to the opinions of others, I must call in question. In the hospital the inquiry was always made, and in the case book it is recorded, in a number of instances,

* *Report on Cholera to the Royal College of Physicians*, p. 122. London: 1854.

that premonitory diarrhœa had not existed. This record was made on the statements of the patients or their friends, without having my attention very specially directed to the question; but after having seen the unconditional and unequivocal opinion expressed by Dr. Macloughlin, it occurred to me, that a more searching inquiry into those cases might have resulted in the confirmation of his views, and it was determined whenever, in any subsequent case, it was stated that there had been no premonitory diarrhœa, that every available source of information would be used to ascertain the facts. The result of the investigation shows that, in six unequivocal cases, premonitory diarrhœa did not exist. These cases are given below, with a synopsis of the leading symptoms, indicating that they all had Cholera.

CASE 1.—*Admitted September 1st*, 1854. Sarah Y., aged 33, attacked with vomiting and purging a "thin, watery fluid," at 7 o'clock this morning, and cramps half an hour subsequently. She states that she felt perfectly well up to this time, and had no premonitory diarrhœa, which was further confirmed by the testimony of her husband. *Symptoms*—Vomiting and purging, excessive thirst, livid appearance of the face, thready pulse, skin cool and covered with a clammy perspiration, suppression of urine. Death in 27 hours.

CASE 2.—*Admitted September 2d*, 1854. Sarah J. Y., daughter of preceding patient, aged 8 years, attacked at 1 o'clock this morning, with severe vomiting and purging. By careful inquiry of herself and father, it cannot be ascertained that premonitory diarrhœa had existed. *Symptoms*—Vomiting and purging, intense thirst, cold and cyanic state of the skin, feeble circulation, husky voice, and suppression of urine—no cramps. Death in 66 hours, from congestion of the brain.

CASE 3.—*Admitted September 2d*, 1854. Julia R., aged 22, went to bed perfectly well last night, slept soundly, and was attacked with vomiting and purging a watery fluid, and cramps in the stomach at 6 o'clock this morning. *Symptoms*—Vomiting, purging, feeble voice and circulation, lower

extremities cold, blueness of the surface, and suppression of urine. When admitted, and after her recovery, she stated positively that she had had no liquid discharges before the hour above mentioned.

CASE 4.—*Admitted September 3d*, 1854. Thomas O., aged 44, went to bed last night, slept as well as usual, and was awakened at 5 this morning with an inclination to vomit and purge, which soon after commenced. Cramps were developed at 6. *Symptoms*—Vomiting and purging, intense thirst, voice whispering, skin cold, clammy, and corrugated on the fingers, cramps, partial suppression of urine. Death in 35 hours.

CASE 5.—*Admitted September 16th*, 1854. Ellen M., aged 29, went to bed well last night, slept soundly, and arose, feeling as well as usual this morning. At 8 o'clock, violent vomiting and purging came on, and cramps at 9. On careful and minute inquiry, no evidence could be elicited that previous diarrhœa had existed. *Symptoms*—Vomiting, purging, thirst, skin cold and blue, suppression of urine. Death in 25 hours.

CASE 6.—*Admitted September 22d*, 1854. Margarette M., aged 36, having felt and slept well the preceding night, was attacked with vomiting and purging at 5 yesterday morning, and cramps at 6. She was carefully interrogated when admitted, and again after her recovery, but no evidence that she had liquid discharges prior to the onset of Cholera could be elicited. *Symptoms*—Vomiting and purging of rice-water fluid, thirst, feeble voice, skin cool, suppression of urine, cramps.

The sudden development in the above cases of severe vomiting and purging, and in one case (No. 3) cramps in the stomach also, followed by the more characteristic algide symptoms, afford unmistakable evidence that they were struck down, from perfect health, at once, by Cholera. The patients not only felt well, slept well, and ate as usual, but, on the most careful inquiry, it was ascertained that nothing like a diarrhœa—no liquid discharges had preceded the severe

attack. In two instances (Nos. 1 and 2), we have the additional evidence of the husband and father, and in Cases 3 and 6 of the patients again after recovery; and surely they could have had no motive for deceiving.

The writer has examined the pamphlet of Dr. Macloughlin, repeatedly, and with much care, in order that his views might be fairly presented, and the impression has been left, that he regards no case as Cholera until spasms commence, and certainly not until vomiting is developed. If this be his interpretation of Cholera, premonitory symptoms are certainly rarely absent; and even admitting his definition to be correct, we have an exception to this *invariable rule*, in Case 3, in which vomiting, purging, and *cramps* were developed simultaneously without any warning diarrhœa. But I imagine there are few physicians, who have seen much of Cholera, that have not occasionally met with cases in which spasms and even vomiting were absent during the whole course of the disease. Abundant evidence from generally recognised authorities might be adduced, in proof of this statement, if it was deemed necessary.

POST-MORTEM APPEARANCES.

One of the most astonishing phenomena presented by Cholera, which has been strongly attested by various writers, is the rise of animal heat that takes place soon after death. It is, however, not peculiar to Cholera. Cruveilhier observed a rise of temperature after death from asphyxia; *Anatomie Pathologique, livre 16me, p.* 35: similar observations were made by Dr. Dowler, in Yellow Fever; *Experimental Researches, &c.*, New York, 1846: and Briquet and Mignot observed the same in peritonitis, pneumonia, &c.*

The following table contains a record of observations made by the writer, of the rise of temperature after death from Cholera, as indicated by the thermometer.

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* *Report on the Morbid Anatomy of Cholera, to the Royal College of Physicians*, p. 7. London: 1854.

Case.	Age.	Sex.	Time of observation before death	Temperature. Body.	Temperature. Atmosphere.	Time of death.	Time of observation after death.	Temperature. Body.	Temperature. Atmosphere.	Remarks.
1	33	Male	9 h. A. M.	Very decided coldness of surface.	79°	2 h. 30 m. P. M.	8 h. P. M.	Axilla, 90° Perineum, 93° Over the heart, 90° Toes, 83° Fingers, 85°	74°	*Rigor mortis* well marked.
2	18	Female	July 6th, 10 h. 30 m. P. M.	Axilla, 92° Calf of leg, 87° Side of abdomen, 49° Vulva, 49° Mouth, 78°	80°	July 7th, 1 h. P. M.	5 h. 30 m. P. M.	Side of chest 94°	85°	
3	34	Female	July 9th, 11 h. P. M.	Coldness very marked	73°	July 10th, 8 h. P. M.	8 h. 30 m. P. M.	Mouth, 81° Axilla, 81° Vagina, 91° Lower extremities 72°	75°	
4	45	Female	July 27th, 4 h. P. M.	Hand, 80° Foot, 83° Side of chest 100°	84°	July 28th, 6 h. 30 m A. M.	8 h. 30 m. P. M.	Hand, 83° Foot, 78½° Side of abdomen, 88°	74°	*Rigor mortis* well marked.
5	36	Female	10 h. A. M.	Surface quite cold.	80°	7 h. P. M.	10 h. P. M.	Pelvic Cavity, 104°	74°	
6	30	Female	11 h. 30 m. A. M.	Coldness very decided	86°	3 h. P. M.	4 h. P. M. 9 h. P. M.	Axilla, 104° Pelvic Cavity, 107°	87° 80°	

It is usually stated that the warmth vanishes when cadaveric rigidity commences, but this was not true in all cases, as is seen in the above table; the rigidity lasts also for a long time. The cause of this remarkable phenomenon has not been satisfactorily explained.

Muscular contractions.—The well known automatic movements of the body which take place after death, were noted in four cases; in one of which it is known that there had been no spasms during the six hours he was in the hospital, and probably for a much longer time. The movements of the hands and feet continued, in one case, for an hour after life was, to all appearance, extinct, and greatly alarmed the friends of the patient, who were unwilling to believe that he was yet dead.

The whole number of autopsies amounted to about twenty, but only five, that were complete, were recorded,

two of which died in collapse, and three from consecutive diseases. There were three males and two females, the youngest 22 and the oldest 45. I am indebted to Dr. Louis Bauer, of this city, for valuable assistance in conducting some of the autopsies.

External appearances.—The skin, in all cases, was more or less livid, but this was more marked in those that died in collapse. *Rigor mortis* well marked—when death occurred in the algide stage, excessive.

Head.—*Sinuses* and *membranes* of the brain preternaturally loaded with fluid blood, and there was more or less sub-arachnoid effusion of clear or reddish fluid; in one case—death from consecutive gastro-enterite—after four days' duration of severe symptoms, the arachnoid, where it passes over the sulci, was raised by air, which escaped when the membrane was punctured. The ventricles contained an unusual quantity of fluid, less in those that died in collapse, sometimes clear, and at other times bloody. The *substance of the brain*, both medullary and cortical, was softened in one case, in which the duration of severe symptoms was twenty-five hours, and death occurred, with symptoms of cerebral congestion, after partial reaction. In the remaining cases, it was normal in vascularity and consistency.

The *lungs* were engorged with dark fluid blood, in a majority of cases, especially at their lower and posterior part. In one case, the congestion, although considerable, did not exist in a corresponding degree in the other organs. In two cases the lungs were collapsed, and in some cases the surface presented spots of ecchymosis.

The *pericardium*, in three cases, contained a drachm or two of serous fluid, which was, in one case, tinged with blood; its surface was covered with a sticky fluid, in another. The *substance of the heart* was flaccid in two, and firm in three cases, and it was engorged, in common with other organs. In one case—death in collapse—the right cavities and the left ventricle were excessively distended with fluid

blood, as black as ink. This was the case in which the congestion of the lungs was not so marked as in other cases. In three cases, one of which died in collapse, fibrinous clots were found in the right cavities, with a few fragments of fibrine in the left ventricle of one subject, and a large quantity of dark fluid blood in all the cavities. In one case, the ventricles contained a small quantity of dark fluid blood, with some soft coagula.

The *liver*, in two cases, was greatly enlarged, its left lobe extending into the left hypochondrium. It was normal in two cases, and in one case its surface and substance was unusually pale.

The *gall bladder* was distended, in three cases, with dark green bile, in one case, with a pale green fluid, and in the subject which had so pale a liver, it was distended with two gall-stones, composed of cholesterine, with a nucleus of inspissated bile.

The *stomach*, in one case fatal in the algide stage, was perfectly healthy. In three cases, the mucous membrane was ecchymosed in large spots, thickened, and, in one case, softened, near the pylorus. In one case, death from consecutive gastro-enterite, the capillaries were highly injected, especially towards the pylorus, giving the whole surface a bright red appearance.

Small intestines.—In one case fatal in the cold stage, the mucous membrane of the jejunum and ileum was highly injected, and of a bright red color throughout its whole extent. It was normal in two cases, one of which died in the cold stage, and marked with spots of ecchymosis in another. In a case of consecutive gastro-enteritis, the whole mucous membrane was highly injected of a bright red color.

The mucous membrane of the *large intestines* was healthy in one case, marked by ecchymosed spots in three cases, and in one case in which death occurred in collapse, it was thickened and ecchymosed in the sigmoid flexure and descending colon.

Peyer's glands were enlarged in two cases, in one of which death had occurred in the cold stage. *Mesenteric glands* enlarged and hyperæmic in one case.

The *spleen* and *pancreas* were usually not altered.

The *kidneys*, with the exception of the engorgement common to other organs, were healthy in four cases. In one case, a fluid resembling pus, was observed to issue from the calices when exposed.

The *bladder* was filled with urine in one case that died of consecutive fever, empty and contracted in four cases; and in all the examinations that were made, it is distinctly remembered that the bladder was contracted and empty when death occurred in the cold stage.

The *peritoneum* was usually drier than natural, and covered, in some cases, with an adhesive fluid. In one case it is recorded, and in several others it is distinctly remembered, that the peritoneal surface of the alimentary canal presented a very pale, almost blanched appearance—a condition which has been faithfully represented by Pirogoff, in his *Anatomie Pathologique du Cholera Morbus*, *Tab.* 1. *Atlas. St. Petersburg*, 1849.

The condition of the *female sexual organs* was recorded in twelve cases. In five cases there was ulceration surrounding the os, with a bright red or dark and roughened appearance of the mucous membrane lining the cervix, body, and fundus uteri. Sometimes the lining membrane presented the appearance of having been macerated in water. In three cases, a tenacious, bloody mucus issued from the os, and also covered the internal surface of the uterus, from which it was with difficulty removed. In three cases, the canal of the cervix was marked by longitudinal fibres, the *arbor vitæ* being entirely obliterated. The *ovula Nabothi* were frequently found distended with a pearly fluid. The ovaries often contained watery cysts, and the Graafian vesicles were sometimes filled with blood. The vagina presented an ecchymosed appearance, and, in two cases, it was extensively ulcerated.

Physical condition of the blood.—In all cases the blood was tenacious, of a dark color, with little disposition to coagulate in the arteries as well as veins. In one case, death in cold stage, the blood was as black as ink, and no coagula were found in the body; in three cases, one of which died in collapse, fibrinous coagula were observed in the heart. On exposure to the oxygen of the air, the blood gradually assumed a brighter hue, but more slowly and less deeply than normal blood: it did not coagulate spontaneously out of the body.

Such is a rapid survey of the leading facts connected with the *post mortem* examinations of Cholera; few of them can be regarded as characteristic, or as necessary consequences of the disease. All observers admit that the most constant pathological condition is the lesion of the blood, which, as we have seen, is dark and fluid and less coagulable than in other diseases.

In a recent discussion at the N. Y. Pathological Society, a distinguished professor expressed the opinion, that the characteristic lesion in Cholera was inflammation of the alimentary mucous membrane. In many cases it is true that the gastro-enteric mucous membrane is highly injected and presents an inflammatory appearance, but it is not marked by the sequellæ of inflammation. Moreover, the well known experiments of Magendie, instituted in 1832, which were repeated by M. Contour, in connection with Professor Siewruck of Moscow, have satisfactorily shown that the redness is not inflammatory, but is owing merely to a venous *stasis* of the blood. These experimenters found, by injecting water into the intestinal arteries, that the blood gave place to the injected fluid, and the intestine became as clear and white as if it had never been discolored. This would not have been the case if the organic changes, which occur in inflammation, had been present. Another and fatal objection to the foregoing opinion is, that the alimentary mucous membrane is often found perfectly healthy when death occurs in the cold stage. This, it will be remembered, was

the case in one of the subjects examined by the writer. The intestinal glands also in some cases are perfectly healthy, and in others preternaturally developed. Did the limits of this article permit, it might be shown, that the phenomena of the disease during life do not point to inflammation as the pathological lesion, except as an accidental complication.

TREATMENT.—The most valuable experience derived from the observation of the recent epidemic is, that Cholera patients should be disturbed by remedies as little as possible. And whenever, in any case, we are at a loss to know what treatment to adopt, or if we find the patient growing worse under the influence of remedies that we think best adapted to the case, the better plan is to rely on the *vis medicatrix naturæ*. This I have repeatedly done with much satisfaction; patients in the deepest collapse having reacted without any treatment—in one case without even ice, beef-tea, or external applications.

Whenever, in any stage of the disease, nausea or vomiting was present, an emetic dose of common salt was first administered, and repeated, if necessary, until vigorous emesis was produced, differing from the vomiting of Cholera, which resembles more a simple regurgitation, attended with little or no effort. Undigested food was frequently discharged, which had remained in the stomach sometimes for 24 hours, notwithstanding the Cholera vomiting had persisted during the whole time. The operation of the emetic usually relieved the vomiting, and when it failed, all other remedies commonly used for the purpose, including large doses of calomel, creosote, aromatics, effervescing draught, narcotics and external applications, were equally inefficient.

When the vomiting proved obstinate, nothing but lumps of ice and teaspoonful doses of beef-tea were allowed, and frequently even these were withdrawn, and the patient permitted to remain unmolested by any kind of treatment, for 12, 15, or 20 hours, with the most satisfactory results, even when there was great depression of the circulation, the skin cold and cyanosed, and the rice-water purging con-

tinuing. Indeed, whenever vomiting was a marked symptom, a favorable termination was anticipated. After the operation of the emetic, one grain doses of calomel were given every hour, sprinkled on the back of the tongue and washed down with water; the discharges, especially when of the rice-water character, would gradually become less frequent, and bilious matter usually appear in them in 12 or 15 hours. Small doses of calomel were used, because they answered the purpose without the disturbing effects which might arise from inordinate doses. Even the small doses of calomel were often followed by bilious diarrhœa, sometimes of a troublesome character, after the subsidence of the Cholera discharges; and it undoubtedly would have been a much more frequent and obstinate symptom, if larger doses had been used.

Ice and iced barley-water were sufficiently indicated by the intense thirst, and the obvious requirements of the system. The quantity was regulated by the condition of the stomach and the effects following their use. If vomiting was present, or if it seemed to be provoked by them, the quantity was diminished or entirely prohibited, as already stated.

Beef-tea was often used for keeping up the failing powers of the system, and supplying nourishment in a concentrated form. The quantity required will not disturb the stomach by its bulk.

An epispastic was usually applied over the abdomen, and rest in the horizontal position was always enjoined. Cramps, when mild, could be relieved by forcibly extending the contracted muscle, and when severe, which rarely occured, they were promptly relieved by inhalations of chloric ether. The hot-air bath was regarded as a valuable adjuvant.

In the treatment of the consecutive diseases which so often followed recoveries from collapse, we were guided by the pathological indications as under other circumstances, bearing in mind the depressed condition of the vital powers.

Such is a summary of the treatment found most beneficial in the Brooklyn Cholera Hospital. It was varied, of course, according to the stage of the disease, constitutional peculiarities, etc. During the course of the epidemic, a great variety of remedies were prescribed. At first stimulants were freely given in collapsed cases, because they *seemed* to be indicated; but I soon became convinced that they were of no use, if not positively detrimental.

Saline injections into the veins was practiced in five cases, but with only transitory benefit. It should be remarked, however, that all the cases in which it was tried had been for some time in extreme collapse, so that the value of the treatment cannot be regarded as having been fairly tested. And I cannot resist the conviction, that a treatment which produces such decided temporary benefit, such as arousing the patient from a profound lethargy, so that he looks and speaks intelligibly, restoring the activity of the circulation, improving the color and warmth of the skin, and, indeed, his whole appearance, may yet prove of immense value. The operation is a delicate one, and there are many nice points connected with it to be considered; such as the best method of introducing the liquid, the proper composition, temperature, specific gravity, quantity, and rapidity with which it should be introduced. When all these points are settled by experiment, which it is hoped the want of success hitherto will not discourage, we may, peradventure, be enabled to save the lives of many patients who would otherwise die.

The injected fluid consisted of three drachms of chloride of sodium and one drachm of alcohol in a pint of water, of which two pints were introduced into the median basilic vein, at a temperature varying from 100° to 115° Fahrenheit, and repeated when the algide symptoms reappeared. In some cases the solution of salt alone was injected, but its beneficial effects were less obvious.

The following composition, given in Dr. Gull's valuable report,* was also used in some cases:

* *Reports on Epidemic Cholera to the Royal College of Physicians*, London, p. 214.

Chloride of Sodium,	60	parts	by weight.
" Potassium,	6	"	"
Phosphate of Soda,	3	"	"
Carbonate of Soda,	20	"	"

" By dissolving 140 grains of this salt," remarks the Doctor, " in 40 fluid ounces of distilled water, and filtering, we obtain a fluid having a decidedly saline taste, a faintly alkaline reaction, and nearly approximative in its composition to the fluid effused, minus the organic substances. These are small in amount, and their loss has apparently no important influence on the constitution of the blood."

Sulphuric acid, so highly recommended by Dr. Fuller, was prescribed, but without any benefit. Opiates and astringents were not used, because they had been fairly tested in the epidemic of 1849 with very unsatisfactory results, and were then abandoned with obvious benefit; and the results of the simple treatment given above sufficiently attest, that they cannot be considered as necessary in the treatment of Cholera. In no hospital in this country or elsewhere, so far as I am aware, where these remedies have been relied on, or any other, indeed, has there been so large a proportion of recoveries, considering the stage of the disease when treatment was commenced, as has been shown to have occurred here. They are used for the purpose of arresting the alimentary discharges, which are considered as the cause of the sudden prostration of vital power which occurs in Cholera. The observations of the writer have induced him to adopt different pathological views. Every practitioner of much experience must have observed, in severe cases of diarrhœa and cholera morbus which recover, much more copious discharges than occur in many fatal cases of Cholera; and he must have been struck with the rapid development of the algide and cyanic symptoms, after so small an amount of the discharges, which, in other diseases, would not excite a feeling of uneasiness for the safety of his patient. Whenever a patient was admitted into the Brooklyn Cholera Hospital with copious and frequent vomiting and purging, especially of the rice-water fluid, if the discharges were not involuntary, a favora-

ble termination usually occurred, and, *vice versa;* and instead of death being the consequence of such symptoms, the conclusion seems more rational, that they are a curative means adopted by Nature to eliminate the poison from the system. Instead, therefore, of arresting the discharges, it was deemed best to *let them stop.*

From the materials presented in the preceding pages, the following conclusions, with others, may be legitimately deduced:

1st. If we may draw a general inference from the observations made in the Hospital in this city, Cholera should be regarded as a much less fatal disease than it is usually conceded to be.

2d. That premonitory diarrhœa, though usually, *does not invariably* precede the development of Cholera.

3d. The copious vomiting and purging of a fluid resembling rice-water, instead of constituting the essence of the disease, should, if not involuntary, be regarded as an indicatian of its favorable termination.

4th. In the treatment of Cholera, we should exhibit the highest respect for the *vis medicatrix naturæ.* I would rather be deprived of all other remedies, for this disease, than ice and beef-tea.

GREENE AVE., BROOKLYN, N. Y.

ART. IV.—*Exsection of the Head of the Femur and Removal of the Upper Rim of the Acetabulum, for Morbus Coxarius, with perfect recovery.* By LEWIS A. SAYRE, M.D., Surgeon to Bellevue Hospital, etc.

ON the 20th of March, 1854, I was called, in consultation with Dr. Throckmorton, to see Ellen G., 297 5th street, aged 9 years, who had been suffering for 18 months with morbus coxarius of the left hip, which was supposed to have resulted from a fall. She had been treated with issues, blisters, etc., together with the general tonic and anti-scorbutic remedies adapted to such cases; but the disease continued

to progress, until an abscess was discovered, involving the whole upper front and inner portion of the thigh, accompanied with repeated chills, profuse sweats, and great prostration.

When I first saw her, this abscess had pointed in two places, and was apparently just ready to open; the point nearest the surface and most fluctuating was just by the anterior superior spinous process of the ileum, immediately in contact with the attachment of the tensor vaginæ femoris muscle, and Poupart's ligament. The other place of pointing was about five inches below the ligament, just over the femoral artery; pressure on any part of the upper portion of the limb distended both of these pointing abscesses, showing communication between them.

The leg was shortened 2¼ inches, and turned inward, *but not permanently fixed in its position*, (as is usual,) but allowing of considerable motion, which gave a distinct *bony crepitus* between the femur and ileum. The pelvis was twisted and drawn upwards. Her general health had become much affected, having lost her appetite, and she was suffering from hectic, with constant chills and profuse sweats, and was only rendered comfortable by the constant use of anodynes.

I advised a free opening of the abscess, and, if necessary, to remove the head of the femur. At first this was objected to; but, as the child's health rapidly failed and death seemed inevitable, the father, in a few days, consented to the operation. Accordingly, on the 29th of March, 1854, assisted by Drs. Throckmorton, Drake, Thebaud, Bauer, and Bertholf, I proceeded to perform it.

I first laid open the abscess by a free incision of about six inches, over the trochanter major, on the outer aspect of the thigh, and in a line with the femur, and then cut into the floor of the abscess (which principally occupied the inner and front portion of the thigh), and discharged about a pint of thin serous and flaky pus. The finger was then readily passed around the neck of the femur, and detected an opening in the capsular ligament on the inner surface of the

neck. The upper border of the acetabulum had been absorbed, and the head of the femur was upon the dorsum of the ileum, near the anterior superior spinous process, *surrounded by its capsule*, (which seemed to have been slipped up), and a large deposit of bone, apparently being an attempt of Nature to make a new acetabulum. But this cavity thus formed had no lining membrane, as the femur grated roughly upon it. I then opened the capsular ligament on a line with the external incision, and disarticulated by bringing the leg strongly across the opposite thigh, and then, with a large pair of Luer's forceps, readily cut off the head of the femur at the lower extremity of the neck. The bone at this point appeared pefectly healthy. I was very cautious not to injure the insertion of the psoas-magnus, or iliacus-internus, or any of the rotator muscles, which are inserted just behind the trochanter major.

The upper rim of the acetabulum had been absorbed, (according to the theory of Dr. March, of Albany,) and the new deposit of bone, which was intended to supply its place, was denuded and carious. I gouged it off with a sharp, firm chisel, made for that purpose, and, in this way, took off a number of flakes of bone, until I came to a healthy, bleeding surface.

The anterior superior spinous process on its outer surface, and the external lip of the crest of the ileum, was black and carious for some distance, and with the forceps I easily clipped it off until I came to healthy bone. Very little blood was lost in the operation, and after cleaning away all the debris, I brought the leg in the straight position, filled the wound with lint, and dressed with a roller and cold water compress. She was then put to bed, and a cup of strong coffee administered, after which she soon fell asleep.

The child was under the influence of chloroform during the operation, which occupied nearly 20 minutes, and was perfectly insensible the whole time.

The following extracts from my note book, taken at each daily visit, exhibit the progress of the case:

11 P. M.—Has slept occasionally and is quite comfortable; pulse 128; skin good; vomited freely about 4 P. M.

March 30, 10 A. M.—Passed a good night, without any narcotic, and slept about four hours; has had no chill; taken breakfast with a relish, and is surprisingly comfortable, considering the magnitude of the operation; pulse 120; no hemorrhage; passed urine twice.

March 31.—Took half a grain of opium last night; slept well; pulse 120; skin good; removed external layer of lint; found small amount of pus.

April 1.—Slight fever; heat of skin and thirst; pulse 130. Administered 5 gr. Dover's powder, with addition of half a grain ipecac., every four hours.

April 2.—Has passed a good night, slept six hours, ate a good breakfast, and feels every way better, but is much more feeble; dressed the wound; on removing the lint, found healthy pus in abundance.

The abscess, which pointed at the anterior superior spinous process, being again full and fluctuating, I opened it, and gave exit to about a tablespoonful of tolerably healthy pus; pulse 140, and more feeble; directed to administer brandy and beef-tea more liberally; I do not think the family give sufficient stimulant or nourishment, as they are very strongly opposed to brandy, and are afraid of meat on account of fever.

April 3.—Slept well all night without opiate; pulse 120; bowels moved twice naturally; appetite good; finding great improvement, follow a more nutritious diet; I advised its continuance.

April 4.—Same as yesterday; healthy suppuration, rather abundant.

April 5.—Child very comfortable, amusing herself by cutting paper dolls; applied the straight splint for counter extension to the well side, and made extension by means of the foot-board, bringing the limb down to the same length of the opposite one.

April 6.—Slept well; bowels moved naturally; but pulse

more quick and feeble, 160; has not eaten so well; ordered brandy and soup to be given more liberally.

April 7.—Slept well, but much weaker, having had three loose discharges in the night, and some hemorrhage from the nose, which was arrested by astringents and compress. Ordered brandy and laudanum, with more liberal use of iron.

April 8.—Diarrhœa not yet checked; the brandy and opium was not given, and yet the child is somewhat stronger than yesterday; pus more consistent.

April 9.—Diarrhœa checked; slept well; eats freely; discharge less copious and more consistent; pulse 120.

April 10.—Very comfortable; looks as if it will require a counter-opening on the front of the thigh, at the old place of pointing.

April 13.—Doing well, and the wound filling with healthy granulations.

April 14.—I applied a compress and adhesive straps on the inside of the thigh.

July 1.—Dr. Throckmorton has seen the child daily since my last visit, and reapplied the bandage and compress, which has had a most salutary effect, and the abscess has the appearance of healing rapidly.

July 10.—I was again called to meet Dr. T. to-day, and found the child much prostrated from a severe attack of dysentery, which had lasted four or five days; she is very much reduced, and, I fear, will not rally. The granulations are flabby, and pus thin and copious.

August 1.—The dysentery has been checked for some days; but the wound, which was nearly closed, has opened, and a small piece of ragged bone came away, which was probably some portion of the shavings or chips removed from the ileum, at the time of the operation, and which I had not been sufficiently careful to remove.*

* Since making this note, my impressions have been more confirmed, as two similar pieces of bone have been removed from different parts of the cicatrix, and have thus materially retarded the progress of the case; I should therefore

August 20.—The child very much improved, but the fistulous opening, from which the piece of bone had escaped, remaining, and having rather a white and flabby appearance, I injected it with tinct. iodine.

August 24.—The injection has been followed by a smart attack of erysipelas, which has extended down some distance below the knee, and there is considerable constitutional disturbance.

Sept. 1*st*.—The erysipelas gradually subsided, but seems to have been of great service, as it has caused union of the walls of the abscess all around the thigh, and the small opening in the cicatrix is nearly closed, discharging a very few drops of healthy pus. The limb is still in the extending splint; but on removing it there seemed no tendency to retraction of the limb. The splint was reapplied; but the body was left free from the bandage, so as to allow of flexion in order to prevent anchylosis.

I might here mention, that for some weeks past, since about the 1st of August, at each dressing her body has been brought at a right angle with the thighs, having this object in view; and I have now permitted her to do it as often as she likes.

Nov. 1*st*.—I had not seen the case for two months, until to-day, when, to my astonishment, I found her walking on her crutches, which she has been able to do for some two weeks. Her limb appears the same length as the other, and she can flex and rotate it freely. I directed her to bear no weight upon it yet.

20*th*.—To-day I placed her in the horizontal position, and measured her carefully, and find there is about $\frac{1}{8}$ or nearly $\frac{1}{4}$ of an inch shortening. By taking hold of the foot, the whole body can be drawn down in bed without pain in the joint, and a pressure may be made sufficiently strong to move

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advise great care, after the performance of this operation, that all debris and foreign bodies be carefully washed from the wound; and in so large and ragged an abscess as this one was, it will require more care than any one would imagine, unless they had seen it.

the pelvis and body upward without producing any shortening of the limb. When she lies upon the back, with the leg extended upon the thigh, she can elevate the heel sixteen inches from the bed, and flex the knee so as to bring the thigh at a right angle with the pelvis; she can rotate it internally so as to touch the other foot, and externally so as to touch the bed. Her general health is perfect, and the case has terminated perfectly successfully. I feel in duty bound to express, in this place, my warmest thanks to Dr. Throckmorton, for his constant care and attention of this interesting case, and to which I am confident I am greatly indebted for so successful a result, as the distance from my house rendered it impossible for me to give it the care required.

The bone was carefully examined, microscopically, but no trace of tubercle was found.

REMARKS.—The history of exsection of the head of the femur in hip-joint disease lies within the present century. The first surgeon who suggested the possibility of exsection of this bone, was Mr. Charles White, in 1769; but the first to attempt its performance, in morbus coxarius, seems to have been Schmalz, in 1816. In this case the head of the bone was found loose, and simply required removal; but it was, on this account, no less a case of exsection in this disease, and its successful results add much interest to the early history of the operation. In 1818, Anthony White performed his celebrated operation, which has generally been referred to as the first successful attempt to exsect the head of the femur in morbus coxarius. It seems to have been repeated in Great Britain but once, and then by Hewson, of Dublin, until 1845, when Mr. Fergusson operated successfully. Since this date it has been very frequently performed in England; and within the last year we find notices of three operations in the London Hospital. Mr. Fergusson has operated five times, and, as far as we can learn, with uniform success; one patient died two years after the operation of "of enlargement of the liver, after having experienced great relief from the proceeding."

Mr. Fergusson states (*Med. Chir. Trans.*, vol. 28), that he has learned that Mr. Brodie performed this operation, and "the patient died within a few days after, the direct effect of that proceeding;" but Mr. Henry Smith, writing in 1848 (*London Lancet*), remarks that he has not been able to "obtain any accurate information respecting the correctness of this assertion." There is no doubt that this surgeon did exsect the femur at St. George's Hospital, about the year 1836, but under what circumstances it does not appear.

In this country this operation seems to have attracted little attention. A case is reported in the *N. Y. Med. Surg. Reporter*, Jan. 10, 1846, in which Dr. J. P. Batchelder, of this city, removed the head of the femur in 1845, under the following circumstances: A young man was kicked by a horse upon his hip, four or five years before, which gave rise to severe symptoms: fistulous openings formed and discharged pus freely; the probe finally detected dead bone; the fistula was dilated with sponge tents, and the dead bone removed with forceps, which proved to be the head of the femur; the patient now rapidly improved and eventually recovered.

I have learned that Dr. Parkman, of Boston, exsected this bone in 1853, but the particulars and results of the case I have no knowledge of. Dr. Bigelow, of the same city, operated soon after, but the case terminated fatally. From a somewhat extended examination of our medical periodicals, I have been unable to find records of any other case.

By a careful examination of the accompanying table, I think the propriety of the operation will be admitted. We might maintain its importance, also, from the fact that it is but following the indications of Nature. The cases of Schmalz and Kluge, in which the head of the femur was found separated from the shaft, are examples of natural efforts to remove the foreign body. Two striking instances of this kind were reported to the *Dublin Pathological Society*, in 1839, by Dr. Carlile, who exhibited two specimens of the epiphyses of the femur, which had been spontaneously discharged in two cases of hip-disease. One patient was 20 years of age, the other 5; both rapidly and completely recovered.

In preparing the following table, regard was had to exsection only in morbus coxarius, as it is in reference to this particular class of cases that we wished to estimate the value of the operation. To arrive at the most satisfactory conclusion in regard to the propriety of the operation, each case ought to be carefully examined, and the complications duly considered. It will be sufficient, however, for our purpose, to notice briefly the fatal cases, and, as far as given, the causes of death; by these means we can estimate the part which the operative proceeding bore in the fatal issue of the several cases.

Hewson's Case.—Profuse suppuration; died three months after the operation; extensive disease of the cotyloid cavity found, with perforation of the acetabulum and formation of abscesses in the pelvic cavity.

Textor's first Case.—Sloughs formed on the sacrum; died on the 53d day after the operation; on examination, the wound was found nearly cicatrized; there was the commencement of a false joint, consisting in bony deposits on the femur, and a depression on the ileum.

Textor's second Case.—Gangrene of the wound took place, and the patient died on the 4th day.

Fergusson's Case.—Died two years after, of enlargement of the liver; wound never entirely healed, owing to a piece of necrosed bone from the edge of the acetabulum, which the trochanter major prevented from escaping. The operator remarks: "I left the trochanters, being under the impression that by taking away the diseased head of the femur only, I lessened the danger, but it was found in the after treatment, that the trochanter major so projected outward in the line of incision as greatly to retard the closing of the wound, and I had no doubt, on inspection after death, that it had acted as a kind of cap to the acetabulum, and prevented the necrosed portion of bone, above referred to, from getting out." *

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* We do not learn that he used any extension—if so, this ought not to have happened.

Roux's Case.—Secondary hemorrhage; died on 7th day; post-mortem examination revealed a large collection of pus between the glutei muscles; extensive disease of the cotyloid cavity; extensive disease of femur below its section; pus in the medullary cavity, disease of pubic bones.

Simon's Case.—Particulars of this case not given.

Smith's Case.—Progressed favorably for a time; symptoms of Bright's disease made their appearance, and he died four and a half months after the operation. Kidneys found in an advanced stage of Bright's disease; sinuses were found extending upwards along the psoas muscles and originating in caries of the upper lumbar vertebræ.

Hawkins' Case.—Patient very much exhausted; suffered little by the operation; died on 3d day. On examination the acetabulum was found perforated so as readily to admit the passage of the finger.

Bigelow's Case.—Particulars not given.

Erichsen's Case.—Particulars not given.

It will be seen that, as far as the particulars of these fatal cases are given, death was attributable in most instances to some grave complication. The operation has almost invariably produced the most favorable change in the general symptoms of the patient, and, in several fatal cases, the parts involved in the operation have healed in the most satisfactory manner, when at length the patient has succumbed to some new and acute disease.

By a careful examination of the tabulated cases, the propriety of the operation must be admitted, and also the great importance of not neglecting it too long, lest the constitution become so exhausted as not to rally from the shock, or sink from excessive suppuration. By too long delay, also, the acetabulum may become so much involved as to render the operation useless.

So soon as *suppuration* is formed *in the joint*, and the *synovial membrane* has been *destroyed*, which can be ascertained by *fluctuation* and *crepitus*, I should advise a *free incision* to be made *into* the joint, just posterior to the tro-

chanter major, to give free exit to the pus. Extension should then be made, after the plan proposed by Prof. March, of Albany—otherwise the bones of the pelvis may become seriously involved. From personal experience in opening suppurative joints, I am satisfied that there need be no fear from the admission of air, which has always been so much dreaded. This fear has, doubtless, arisen from the great constitutional disturbance which follows its introduction into *healthy* joints, but we must recollect that after suppuration and destruction of the synovial membrane, that it has in fact no longer the *characteristics* of a *joint*, but is the same as any other abscess connected with bone, and should be treated upon the same general principles. By this prompt treatment in the *earlier* stages of the *suppuration*, we will avoid the necessity of *exsection*, and in the majority of cases have a speedy recovery with tolerable motion, and in many instances perfect and complete. Two such cases have occurred in my own practice, and I have seen a number in the practice of my friends. But as I did not intend to speak of suppuration of the joints in this paper, but simply of exsection for caries or necrosis, I will postpone the further consideration of this subject, merely remarking, that if we will carefully study the fatal cases which I have reported, I think we cannot help but infer that, had the plan proposed been earlier pursued in those cases, we might have anticipated a more favorable result, at least, in some of them.

SUMMARY.—*Whole number*, inclusive of above case, 30.

Recovered, 20.—Of these, 13 were completely successful; 3 died of an intercurrent disease, at periods varying from three months to two years after the operation; 1 is reported as not having progressed favorably; the remainder were too meagrely reported, or too recently performed to decide correctly of results.

Died, 10.—Of these, 4 died within one week after operation; 1 on the 12th day; 2 in two months; 1 in four and a half months; 1 some months after; 1 unsuccessful.

Table of Twenty-nine Cases in which the operation of Excision of the Head of the Femur has been performed in Morbus Coxarius.

NO. & SEX.	AGE.	CAUSE AND DURATION.	CONDITION.	OPERATION.	PROGRESS OF CASE.	OPERATOR.
1	------	------	Caries; head separated from shaft.	1816.	Recovered.	SCHMALZ.
2, M.	14	Fall three years before.	Head dislocated on dorsum; great exhaustion; several fistulæ.	1818; straight incision; straight saw; four inches removed.	Bandages and splints used as in compound fracture; fever slight; discharge soon ceased; health rapidly improved; well in a year; perfect use of limb, except in rotating knee in.	WHITE.
3	------	------	Caries.	1823; removed above lesser trochanter.	Perforation of acetabulum and formation of abscesses in the pelvis; died in three months.	HEWSON.
4	------	------	Caries with abscesses.	1829.	Cured in 6 weeks; patient able to walk	SCHLITCHING.
5	------	------	Caries; head loose; fistulæ.	------	Died two months after operation	KLUGE.
6	Child.	------	Caries.	------	Recovered.	VOGEL.
7	------	------	Disease of neck of bone and trochanter; head healthy.	------	Sloughs formed on the sacrum; death on 53d day; wound nearly healed	TEXTOR.
8	------	------	Caries; head dislocated.	------	Gangrene of wound took place and death followed on the 4th day.	TEXTOR.
9	------	------	------	1845; removed all above lesser trochanter.	Complete recovery,	TEXTOR.
10, M.	14	Some months.	Head dislocated on dorsum; large sinus extending to it.	1845; straight incision; chain saw broke; used the straight; four inches removed.	Dressed as in compound fracture; shock slight; wound healed well; health rapidly improved; limb very useful, 2½ inches shorter than the other.	FERGUSSON.
11, M.	8	Some time.	Head dislocated; abscess over the ileum; sinuses; hectic and emaciation.	1847; crucial incision; edges of acetabulum removed; left the trochanters.	Treated as in former case; health improved; wound never entirely healed; died two years after of disease of the liver.	FERGUSSON.
12, M.	15	Long standing.	Dislocation; emaciation; cough; hectic; no abscess or fistulæ.	1847; straight incision; removed head and part of neck.	Secondary hemorrhage; collection of pus between glutei muscles; death on 7th day; extensive disease of cotyloid cavity.	ROUX.
13	Child.	Two years.	Head dislocated on acetabulum; sinuses and abscesses.	1848; removed head and portions of acetabulum.	Died four days after the operation.	SIMON.
14, F.	10	Some time.	Head carious and dislocated on dorsum.	1848; head and trochanter removed; acetabulum healthy.	Recovered.	FRENCH.
15	------	------	------	------	Recovered perfectly.	FERGUSSON.

NO. & SEX.	AGE.	CAUSE AND DURATION.	CONDITION.	OPERATION.	PROGRESS OF CASE.	OPERATOR.
16, M.	16	Two years.	Caries; severe pain; sinuses with discharge.	1848: straight incision; removed four inches and the carious part of cavity.	Dressed as in fracture; pain ceased; health rapidly improved; wound closed well.	WALTON.
17	----	----	----	----	Unsuccessful.	WALTON.
18, M.	33	Year and a half.	Hip swollen; sinus discharging; caries.	1848; straight incision; removed three inches of rim of acetabulum; no ligatures.	Water dressings; fever slight; symptoms improved for four months, when leg became œdematous, and he died 4½ months after the operation; Bright's disease of kidneys, and caries of vertebræ found.	SMITH.
19, F.	----	Three years.	Caries; head dislocated.	1849; crucial incision; removed head and trochanter major.	Recovered perfectly.	FERGUSSON.
20	----	----	----	1849.	Recovered, with perfect motion of the thigh, & could walk a short dist'ce.	MORRIS.
21, F.	12	----	Large open sore on hip; caries; sinuses; emaciation, etc.	1849; straight incision; common saw; removed 4½ inches.	Placed in straight position; slight fever; symptoms soon improved; ulcers healed; health gaining.	COTTON.
22, M.	41	Two years.	Great suffering, grating in joint; large discharge of matter.	1850; made a T incision; capsule entire, except at inner edge; removed below great trochanter; head carious, edge of cavity.	Wound cicatrized rapidly; severe symptoms all subsided; died three months after of dysentery, the wound being nearly healed: parts found in a healthy condition, and in an advanced stage of repair.	BUCHANAN.
23	----	----	Caries; head and neck partially destroyed.	1851; removed head.	Wound healed, but abscess formed; did not progress very favorably.	SAYLE.
24, F.	10	Several years.	Feeble and emaciated; fistulæ discharging freely.	1852; circular incision; large collection of pus under gluteim.	Symptoms rapidly improved; made extension by weight attached to foot; wound healed.	STANLEY.
25, F.	10	Four years.	Head carious; emaciation and hectic.	1852; straight incision; removed one inch below trochanter; also edge of acetabulum.	Progressed favorably two days; died on 3d day after operation; found large perforation of acetabulum.	HAWKINS.
26, M.	10	----	Caries and dislocation.	1852; bone separated while sawing.	Cold water dressings; pulse unaltered three days; death on 12th day,	BIGELOW.
27, M.	14	----	Greatly reduced; bone dislocated.	1853; neck and great trochanter removed.	Rapid improvement; suppuration profuse; died some months after.	ERICHSEN.
28, F.	12	Long standing.	----	1854; removed head and both trochanters.	Improvement marked.	FERGUSSON.
29, M.	8	Long standing.	Gt. emaciation; hectic, caries.	1854; removed head and edges of acetabulum.	Recovered.	ERICHSEN.

ART. V.—*Case of Circumscribed Abscess in Bone.* By P. C. BLEEK, M. D., of King's County Hospital, N. Y.

THE surgeon who first described a case of small circumscribed abscess in bone, and drew the attention of the profession to that very painful and important disease, was Sir Benjamin Brodie,* a discovery which reflects the greatest credit on the sagacity of that celebrated man; for, since he first discovered and described this complaint, and suggested the proper treatment for it, a great many limbs have been preserved and made useful again, that otherwise would have been amputated,—each one saved being another proof, that he is a greater surgeon, who shows how to save a limb, than he who can amputate it in half a minute or less.

Sir B. Brodie was first led to his discovery by examining a leg which he had removed from a young man, and finding that a small abscess in the lower part of the tibia had been the cause of all the patient's suffering; from that time he always trephined in cases where from the symptoms he suspected abscess in the bone, and his operations were always followed by the best results. Other English surgeons, following his example, found the operation equally successful.

Stanley, in his *Treatise on Diseases of the Bones*, gives a full account of this disease. Some German writers† also describe it in their manuals on Surgery, although we do not know that any German surgeon has published a case of the kind as having occurred to himself. The following, it is believed, is the first case of which we have any account in this country.

The patient, John Ryan, aged 32 years, was admitted to the King's County Hospital, from Williamsburg, Dec. 22d, 1853. He complained of an excruciating pain, which had troubled him incessantly for six weeks, in the middle of the left tibia.

He gave the following history of his complaint. When nine years old he met with an accident, which caused com-

* *Lectures on Pathology and Surgery.* By Sir B. BRODIE. 1846.

† BARDELEBEN'S *Translation of Vidal's Surgery*, vol. ii., p. 531. WERNHER'S *Surgery*, vol. i., sect. 2, p. 863.

pound fracture of the left leg, and was confined to his bed in consequence for two years, during which time several pieces of bone, from half an inch to 1½ in length, exfoliated. Not until six years after the accident was the leg completely healed up, and after that time it did not trouble him, with the exception of the scars on the skin inflaming and ulcerating. These sores, however, always healed up quickly, when properly attended to. The bone itself had remained quite strong.

Six weeks before his admission to the hospital, he suddenly felt a severe pain in the diseased leg. This pain increased, and became so severe that his appetite left him and he could not sleep. When he came to the hospital, he had made up his mind to have the leg taken off, rather than suffer the pain any longer. The man was apparently strong and healthy, but his face was pale, and showed by its expression that he was a great sufferer. The organs of respiration and digestion were quite healthy; tongue clean, bowels regular, pulse frequent. The skin covering the anterior part of the middle third of the left tibia was changed into cicatrized tissue, and was of a rose color. A portion in the center of this had a shining and uneven appearance. The size of the tibia in the part corresponding to the cicatrized tissue was enlarged, resembling the callous thrown out around a fractured or necrosed bone. Just in the center of this enlarged part of the tibia, corresponding with the abovementioned swollen and uneven portion of the cicatrix, was the seat of that excruciating pain of which the patient complained.

Dr. Turner, who first examined the patient on his arrival at the hospital, diagnosed an abscess in the tibia, and placed the patient under my care. My opinion agreed with his, with the exception that I supposed necrosed bone inside the tibia might be the cause of the trouble. We agreed, however, that the tibia should be trephined on the spot where matter was suspected.

The operation was performed Dec. 27th, the patient at

the time being under chloroform. Two incisions, crossing each other, were made over the seat of pain. Then, after having dissected from the bone the four flaps thus formed, I applied a trephine, about half an inch in diameter. On withdrawing the trephine, in order to see if it had penetrated deep enough, about a teaspoonful of laudable pus escaped through the hole made by the pyramid.

After having trephined a little deeper, the cavity in the bone was reached, and the trephined portion was easily removed. Only very little pus had remained inside, and no necrosed bone was found. The piece of bone removed by the trephine had, on its inner surface, an excavation about half an inch in its longest diameter, the greatest depth of which was penetrated by the pyramid. The cavity was then filled with lint, the patient placed in bed, and an anodyne ordered.

Dec. 28*th.*—The patient complains of much soreness in the wound, but the severe throbbing pain has entirely left him since the operation; warm-water dressings applied to the wound.

Dec. 30*th.*—He says that he feels first rate; scarcely any pain; has slept well; appetite is very good. The wound in the bone begins to suppurate and granulate.

A fortnight after the operation, he left the hospital, feeling quite able to work at his trade, and being very anxious to support his family. The wound in the bone at this time was filled with good and healthy granulations; only the upper margin of the bone was not covered by them. The cut in the skin had commenced to cicatrize from the corners, the four flaps having retracted almost entirely.

Two weeks afterwards the patient presented himself at the hospital. He said, a few days after he left the hospital, several small splinters of bone had come away from the upper margin of the wound in the bone. Since then this part had been covered completely by granulations. The wound is cicatrizing rapidly now. He is able to walk without the least trouble. Has had no pain whatever; sleeps and eats well, and is very thankful for his recovery.

About nine months afterwards, I saw him again. His leg had remained strong and free from pain ever since the operation. The wound had soon healed up, and the cavity in the bone was filled with bony substance. Only a slight depression showed the spot where the trephine had penetrated the bone.

ART. VI.—*Elkoplasty, or Anaplasty applied to the treatment of old Ulcers.* (A reply to Dr. Watson's "Reclamation.") By FRANK H. HAMILTON, A. M., M. D., Surgeon to the Buffalo Hospital of the Sisters of Charity.

A SERIOUS misapprehension of the nature and purpose of my late operation of Elkoplasty, has provoked, on the part of an esteemed friend, a "Reclamation," accompanied with a brief homily on morals and ethics, the tone of which is somewhat severe, and, as I trust I shall be able to show, in its present application at least, undeserved.

"In our current medical literature we occasionally meet with the announcement of surgical operations and of other performances, as novelties, which have no claim to be so considered. In some instances of this sort, I have seen friends and acquaintances unjustly overlooked; and in some, again, I have had reason to complain on my own account. Up to the present time, however, I have been willing to allow whatever little may have been added to the stock of surgical knowledge by myself to make its own way in the world, and pass for what it is worth, independent of the source whence it came. Nor should I on the present occasion deviate from this course, had I not in view the correction of an evil which appears to be on the increase.

The eagerness with which the busy practitioner is now and then solicited to write for the periodicals, and the little time he usually bestows upon his literary contributions, may offer some excuse for the unintentional oversights, or acts of injustice to which I now allude. But it should be remembered that the desire of being useful is not the only incentive to authorship; and that, among the rewards of the medical writer, not the least is the favorable notice of his labor by his professional brethren.

I would not do our critics and reporters the injustice to suppose that in any considerable number of instances, the oversights to which I allude are intentional. Hasty composition and deficient information will explain the most of them."

Such is the language employed by Dr. Watson in his Reclamation, and, in illustration of the justness of which, he has called attention to my paper on Elkoplasty, read originally before the "Buffalo City

Medical Association," and published in the September number of this journal.

Dr. Watson assumes that, in the paper referred to, I claim to have been the first to cure an ulcer by Anaplasty: of which claim, he affirms, "in his proposal as well as in his results, Dr. H. has been anticipated by myself, once in April, and once in July, 1844."

To which I beg courteously to reply—

(Waiving for the present the inaccuracy of the statement, that I have at any time offered such a claim) Dr. Watson did not anticipate me in my "proposal" to cure ulcers by Anaplasty.

He has mistaken the application, and the principle of my operation.

He has not anticipated me in my "results."

Each of these several propositions I hope soon to make good.

Dr. Watson finds that his first proposal to cure an ulcer by Anaplasty was made in 1844. The patient was admitted to the Hospital on the 19th of April, 1844, and the operation was made on the 27th of July of the same year.

If this was not the first proposal of the kind made by himself, it is, at least, that upon which in the present instance he relies to convict me of "injustice."

Of the precise month and day, upon which my "proposal" was made, Dr. Watson had probably no knowledge, for I do not see that he could have had the means of knowing; but that he had the means of knowing the year with certainty, the following, from the very paper which provokes his censure, is sufficient evidence. "In the report of my surgical clinic for 1846,"* etc., etc. "*Two years before the date of this clinic*, when I took the cast alluded to in the above report, I made the same proposition to the lad, and when he declined submitting to it, I appealed to his father, who was a worthless inebriate, to allow me to secure one of his legs to his son's, that I might make the transplantation from him."†

Thus far my proposal dates from the year 1844. How, then, could a writer, impressed with the necessity of vindicating his own rights, and the rights of his friends against unjust claims, have incurred so plain a risk of subjecting himself to the keen and polished points of his own weapons! How could my friend assume so positively that, in the "proposal" as well as in the results, he had anticipated me? For it not only might have happened, for aught that he knew to the

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* *N. Y. Journal of Med.*, vol. xiii., p. 168.—HAMILTON *On Ulcers treated by Anaplasty.*

† Ibid., p. 168.

contrary, that I had anticipated him at least three months, but it actually did so happen. The cast was taken, and the proposal was made on the 10th of January, 1844, as the records of my clinic will show.

I am aware how immaterial the discussion of this point may seem to my readers, but since it is made to occupy a prominent place in the Reclamation, I trust no apology on my part is necessary.

It may not, however, be regarded as immaterial, that I should attempt to show that he has mistaken the application of my operation.

I knew very well that Anaplasty in some form had been before applied to the treatment of ulcers; I had often seen it so applied: I had so applied it myself in numerous instances. Indeed, if one will read "Velpeau's Operative Surgery," the same which had been translated by Townsend, and in the American appendix to which is contained a report of Dr. Watson's first case, he will find that M. Velpeau himself has proposed and practiced the cure of ulcers by Anaplasty.

"*Anaplastie par simples incisions latérales. Procédé de Dieffenbach.* * * * * * C'est une méthode opératoire qu'on a déjà mise en pratique autour de la bouche, aux joues, au voile du palais, sur les côtés de la plupart des fistules, que j'ai essayée aussi dans certains cas d'anus contre nature, *d'ulcére des membres*, de perforations de la voûte du palais."*

The application of Anaplasty to the treatment of ulcers, or granulating surfaces, is, I conceive, as old as Anaplasty itself. Surgeons have never ceased, since I began my apprenticeship, to resect or quicken the edges of stubborn, callous ulcers, and, either with or without such lateral incisions as are described by Velpeau, to attempt anew the closure of the wound by sutures, straps, or bandages. Nor does my omission to allude to this imply ignorance of the fact, or improper motives, any more than does Dr. Watson's omission, in the published report of his case, in the appendix to the American edition of Velpeau's Surgery, imply ignorance or improper motive; a report which he furnished himself to Dr. Townsend. ("Communicated by Dr. Watson for this work, and never before published."†)

The operation which I proposed had a limited and special application. It was intended, not for all ulcers, nor, indeed, for all "old" ulcers, as the title of my paper might possibly imply, but only for a peculiar and unusual variety of old ulcers, which could not very well

* *Nouveaux Éléments de Médicine Opératoire.* Par Alf. A. L. M. VELPEAU. Edit. 1839. Tome Première, p. 631. Paris.

† Op. cit., vol. i., p. 711.

have been specified in the title, but which have been carefully described in the course of the paper.

"Some writer has said, 'old ulcers in 1830 will be old ulcers in 1860,' which, not to be understood always in a literal sense, was intended only to express, in a brief and pertinent form, the proverbial obstinacy of this class of sores.

In most cases, the integument has been broken and destroyed by ulceration, and then, usually, bad health, or, perhaps, enlarged veins, have helped to perpetuate the lesion. *In other cases, however, the ulcers are directly in consequence of lacerating injuries, which have at once torn away the skin beyond the power of nature to repair; and that although the health of the body and of the limb may be perfect. In such cases, the refusal of the ulcers to heal is entirely owing to the extensive loss of integument.*"*

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"I beg to suggest a procedure which, hereafter, in some unfortunate cases of *this class*, may deserve a trial."†

"*Summary:*—

1st.—Ulcers, accompanied with extensive loss of integument, do generally refuse to heal, whatever may be the health of the body or of the limb.

2d.—Anaplasty will sometimes succeed in accomplishing a permanent cure, and especially where the health of the body and of the limb are perfect, and where, by inference, the refusal to heal is alone attributable to the extent of the tegumentary loss."‡

I do not know that I could have been more explicit.

Whether such cases ever occur, in which the refusal of the ulcer finally to heal is entirely owing to the great amount of integument which has been lost, is certainly another question, and one which it may be proper hereafter to consider.

Is it not plain, then, that the "application" of my operation has been misapprehended, when a case is cited as its parallel§ in which "the cavity was about two inches and a half in its shortest diameter," and, as the accompanying engraving will show, was but little more in its longest diameter—in which the obstacle to closure was the complete inversion of the margin of the skin, so that the hair actually lay against the bottom of the cavity; with a necrosis of the external plate of the skull, which was lying exposed at the inner, outer and lower margins of the cavity—and this, possibly, as the report intimates, dependent upon some remaining venereal taint? That these were the only obstacles to closure we infer, because such obstacles are stated to have

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* *New York Jour. of Med.*, New Series, vol. xiii., p. 165. Elkoplasty.

† Ibid., p. 167. ‡ Ibid., p. 172.

§ VELPEAU'S *Operative Surgery*, by MOTT. Vol. i., p. 711. American Appendix

existed, and no mention is made of any other impediments. It is not said that the loss of skin had ever been very extensive, or that one line of new skin had ever formed upon the margin of the old, or that the integuments in the vicinity had been drawn centripetally until their elasticity had become exhausted.

No less has Dr. Watson misapprehended the principle of my operation; a principle which derives its suggestion from the peculiar necessities of the ulcer described, and by application to which form of ulcer alone could it have found a satisfactory solution.

Permit me to read the report of my clinic as contained in my paper on Elkoplasty.

"The Dr. has proposed to the boy a plastic operation, with the view of planting upon the *center* of the ulcer a piece of new and perfectly healthy skin. He proposes to take this from the calf of the other leg (having secured the two together), *not intending to cover the whole sore, but perhaps two or three square inches, which he believes will be enough to secure the closure of the whole wound in a short time.*" p. 168.

Again:

"By this means, I hope, gentlemen, not only to supply an amount of skin equal to the size of the piece transferred, but to furnish, also, a nucleus from which additional skin shall be formed. I hope to establish a new centre of life—an oasis—from whose outer verge a true and healthy vegetation shall advance in every direction over the exhausted soil.

It is not improbable, also, that the graft will itself expand, or be drawn centrifugally by the contraction of the surounding granulations and cicatrix, conversely, as the skin about the ulcer had before been stretched and drawn centripetally, by a similar action of the granulations and cicatrix situated within its free margin, so that, after a time, it will cover more space, independent of any actual growth, than it did originally. The opposite of this happens usually in Anaplasty, and would occur here, did the flap equal or exceed in size the wants of the parts to be supplied. The flap would contract, thicken, and project itself above the surface. But in old ulcers, it will generally be found impossible to furnish a direct supply of integument equal to the loss. A deficiency must probably still exist, and sufficient, it is believed, to determine in the transplanted skin a necessity of expansion.

The value and practicability of these views are, I trust, in a measure established by the results, in the case which I shall now take the liberty of bringing before you." p. 167.

And as if this were not sufficient to declare my meaning, I have repeated these essential points in a *Summary*.

"3d.—The graft must be brought from a part quite remote; generally from an opposite limb, or from another person.

4th.—If smaller than the chasm which it is intended to fill, the graft will grow, or project from itself new skin to supply the deficiency.

5th.—It is not improbable that the graft will expand during the process of cicatrization at its margins, but especially for a time after the cicatrization is consummated.

6th.—In consequence of one or of both of these two latter circumstances, it will not be necessary to make the graft so large as the deficiency it is intended to supply." p. 172.

Yet Dr. Watson believes that the only points of difference between our cases, "at least so far as principles are involved," are that in my case the flap was taken from an opposite limb, in his, from the immediate vicinity of the sore—in my case the knife was used; in his, the knife in one instance, and a wash of concentrated aqua ammonia, in the other!

I confess that in my failure to explain myself intelligibly to a mind which, a personal acquaintance enables me to say, is so quick and discriminating, I have experienced no little mortification. I am compelled to believe that my statements have lacked perspicuity. So far, indeed, is he from having entertained the idea, or the principle upon which alone my procedure was based, it has not yet been suggested to him, for he has in his closing paragraph, as if by accident, described the very case, or a case closely analogous to that for which I have proposed to operate, and then he has left it without any remedy, except the too-often ineffectual resources of Nature.

"But so far as the mere closing of the simple ulcers is involved, thanks to the elasticity and yielding power of the skin, the anaplastic method is rarely necessary. In those of moderate size, and in some, too, of immense size, Nature does the work of reparation with very little assistance, provided, always, that little be judicious. And on those again of *greater size*, such, for example, as result from extensive burns and scalds, or from diffuse gangrenous erysipelas, a flap of sufficient dimensions to cover them could hardly be removed with safety from any part of the body."*

Since, then, "a flap of sufficient dimensions to cover them could hardly be removed with safety from any part of the body," I would again suggest that we should, in a few extreme and nearly parallel cases (I allude to the cases which I have myself described), endeavor to establish a new center or focus of cicatrization.

In the report of Dr. Watson's cases, no allusion is made anywhere to the impracticability of engrafting a sufficient amount of skin to completely supply the loss. The case itself, for which alone I have

* *N. Y. Jour. of Med.*, vol., xiii., p. 344. Dr. Watson's Reclamation.

reserved the operation, did not exist. The ulcers were so small, that to supply the *entire* loss by Anaplasty was not impracticable. The integuments in the vicinity were not so contracted and drawn in towards the sore, as that to employ them for the purpose of covering it over would be only "substituting one ulcer for another" (p. 167 of my paper). Very naturally, therefore, it did not occur to Dr. Watson what modification of Anaplasty might be necessary in case these difficulties had actually existed. One seldom thinks to provide for an absent emergency.

That Dr. Watson has not anticipated me in my *results*, it is scarcely necessary for me now to repeat. He has never yet thought of making the flap smaller than the space which it is intended to supply, and then trusting to growth and expansion of the graft to complete the cure. The cases in which he has operated have not involved the necessity of this expedient. He has not, therefore, adopted my procedure, nor obtained my results.

The second case (G. C.), referred to by Dr. Watson in his Reclamation, was never published, until it was drawn from the Hospital records to answer my "claim," and I have, therefore, thus far confined the comparison of principles and of practice to the analogies or dissimilarities to be observed between my case and the case published in the American Appendix to Velpeau's Surgery, and furnished by Dr. Watson.

I am certainly not responsible for never having heard of the case of G. C., although it might have been "much talked about at the Hospital and elsewhere." Yet this case possesses, certainly, more features in common with my own than the one published in Velpeau. The ulcer had been caused by the sloughing of the toes and metatarsal bones of the right foot; the stump would not heal permanently, but continued at intervals to close and again open, causing him serious annoyance. At the time of the operation, a callous ulcer existed upon the end of the stump; and this ulcer had existed during most of ten years. It is probable, therefore, that one obstacle to the closure was the tense and inelastic condition of the adjacent skin; but that this was not the sole, or even the principal obstacle, is evident from the fact that the operator was able to supply the loss by a flap obtained near the sore. It is quite probable, therefore, that the callous condition of the sore, and its peculiar situation on the end of the stump, constituted the main impediments. Yet I will not deny that it may have been a case nearly in point, and for which I should have suggested, rather than the less certain method of supplying the loss from the adjacent skin, the

method adopted by myself, viz., of transplantation from a remote part.

Whether any cases ever occur in which an ulcer refuses to heal, chiefly or solely because of the great amount of integument which has been lost, I will now consider.

I have said that ulcers generally close over by either the formation of new skin, or by the condensation of the granulations and the consequent contraction of the old skin. The limit to the centripetal contraction of the old skin is determined by its extensibility, qualified sometimes by the proximity of a joint, and the more or less flexure of the parts over which the integument is drawn. To this contraction there is, then, doubtless, a measure. It is not competent to the supply of every supposable loss of integument, and what hereafter remains to be done must be accomplished solely by the formation of new skin, and this mostly, if not wholly, as an outgrowth from the old. The exceptions which occur to this rule are too few to encourage us ever to rely upon them for aid. Let us determine, then, whether also to the formation of this new tissue there is a limit, or whether, on the contrary, it may continue to develop itself indefinitely. It will be fortunate if the latter supposition proves to be the correct one.

When an ulcer is healing, what do we observe? First, the granulations rise gradually towards the surface, until, along the margins at least, the level of the adjacent skin has been attained. At this moment, the new skin begins to form upon the peripheral granulations, as a pale pinkish circle, which becomes daily more and more opaque and white, until, in the end, it approaches very nearly to the color and firmness of the original structure. This process is at first rapid, and promises soon to close over the most extensive wounds in a brief period. And whether the wound is large or small, the same thing may be seen—the formation of new skin tissue is at first rapid, if the health and other circumstances are favorable. Soon, however, it is observed to progress more slowly, and even in ulcers, which were from the beginning quite small, we are often surprised to find how tedious, after a few days of rapid progress, are the final stages; and how long a time it takes to close up the last few lines of its surface. Nor is this change in the rapidity of the process by any means owing to a change in the health of the patient. It may often be observed to occur, and with the same uniformity of decline, when the health of the person affected is daily improving. Nor is it, again, because the extensibility of the skin in the vicinity has been exhausted, that this delay occurs, for I am speaking only of the new growth, and it is of this that I observe so constantly

that *its* progress or development is daily more and more tardy. I wish to explain this phenomenon.

I think new skin tissue is formed, not simply upon, but in some sense, *by* the old tissue. When, therefore, I say:—"The formative power of the old skin does not extend beyond a few lines. The new vessels, becoming more and more attenuated as they stretch inward from the periphery, lose, at length, the power of generating epithelial cells, or, if formed, they are too imperfectly organized to sustain an existence, and they crumble away from the slightest provocation" (*page* 11 *of Article on Elkoplasty*) I have sought only to express my convictions that the new tissue was dependent upon the old for its material of repair. A belief which, with modifications, is entertained by many pathologists in common with myself. Mr. Miller observes, "As a general rule, integument is formed *by* and from integument,"* which expression he afterwards explains to mean, "It is not intended to be understood that the original skin sustains both the production of the organizable material, and the management of the organizing process; the major part of the blastema, whence the cuticular formation is produced, is doubtless furnished by the parts immediately beneath—granulations; and these may also contribute much to the organization. But the process of organization is *commenced* by the original skin, in that portion of the blastema with which it is in immediate contact; and continuance of the process is then, doubtless, maintained by those parts, whether recent or old, with which the advancing pellicle comes in contact."†

But certainly this is a point in pathology which is yet far from being absolutely determined. Whether the lymph which is to develop subsequently into epithelial cells has issued from the capillary vessels of the old skin, or from the vessels of the granulations, the microscope does not decide. The vessels from both of these structures are lying in close juxtaposition, if they are not actually in inosculation, wherever the epithelial cell or its plasma is sought to be obtained. The precise source, therefore, of this reparative material, remains at present a matter of conjecture. Mr. Miller believes that the old tissue furnishes the first plasma, and that subsequently the granulations assume this function entirely, leaving the old tissue no other duty, perhaps, than that of "management," or the assimilation of the products.

I wish to express my dissent from only the latter part of this hypo-

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* *Principles of Surgery*, by JAMES MILLER. 3d Amer. Ed., p. 199.

† Page 199.

thesis, and to explain more fully why I suppose that the old tissue continues to the last, not only the management, or adaptation of the new material, but also the production or effusion of the same; from which, also, I shall deduce the inference, that, when the old skin or its vessels fail to furnish a supply of blastema, the cicatrization must generally cease.

First.—If the granulations or their appropriate vessels are competent, after the process has been commenced by the vessels of the old skin, to the formation of suitable plasma for the construction of epithelium —if this is with them a usual or a normal function, then ought they to perform this duty with as much speed and certainty as did the vessels of the old skin, whose function they have now assumed. But the fact is otherwise. The process, at the moment when it is believed that the skin has relinquished its productive agency to the granulations, languishes and finally ceases altogether.

If, however, we regard the new skin tissue, or the lymph of which it is to be constructed, as always a product of the old, or at least that the new material shall always require some element of matter from the old skin, which shall determine its development into epithelium, then we can readily understand how the gradual diminution of the capillaries through a new and always less perfectly organized structure shall at length render it impossible for them to furnish the plasma requisite for the repair, or for the construction of epithelium cells.

Second.—There are many analogies in the various processes of reproduction and repair which furnish support to this doctrine. Each tissue, when inflamed, furnishes a reparative material like that from which itself has been constructed. "When it is seen that in inflammations of bone the lymph usually ossifies; in those of ligament, is converted into a tough ligamentous tissue; and that, in general, lymph is organized into a tissue more or less corresponding with that from whose vessels it was derived; it is usually concluded that this happens under what is called the assimilative influence of the tissues adjacent to the organized lymph. But we may better explain the facts, by believing that the material formed in the inflammation of each part partakes, from the first, in the properties of the material products of that part; in properties which we know often determine the mode of formation independently of any assimilative force."*

I think, moreover, this case itself—the ulcer which continues to cicatrize more and more slowly—furnishes evidence that it is not by the

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* *Lectures on Surgical Pathology*, by JAMES PAGET. Amer. Ed., p. 223.

law of analogous formations, or by assimilation, that epithelial cells are here determined, since this law would continue to operate to the consummation of the cure, and that without delay or abatement.

Third.—I have made a careful vertical section into the new skin, parallel to and about one line from the visible margin of a healing ulcer, and I have observed that the process of cicatrization, along this margin, was on the third or fourth day thereafter sensibly delayed. This I have repeated many times on ulcers, at various stages of cure, and always with the same result, provided the walls of the incision were kept only slightly asunder after the wound had been made.

I do not see how this incision should have disturbed the plastic or assimilative force of the free and yet unbroken margin, nor how the circumstance of retardation can be explained, if we believe the granulations below alone furnish the supplies for the new skin. And yet the fact finds a ready solution in the hypothesis that the old skin, or its capillaries, were the vehicles of nutriment for the new, and that by this bisection of their channels the supply has been cut off or interrupted.

My argument is, finally, that such cases as I have supposed, in which the ulcer will refuse to heal, solely because of the extent of tegumentary loss, do and must continue to occur, from the very laws which govern the cicatrization of such wounds.

That they do occur, I affirm also from my own observation and from the concurrent observation of others. Again and again do we find it necessary to amputate a limb, because the integument has been stripped from it beyond the power of nature to repair; and if the same results do not follow after extensive burns, it is, doubtless, because the original skin is only partially destroyed over all this surface, and there remains, therefore, a multitude of little islets from which new skin is capable of advancing.

As pertinent to this question, I will quote from a recent American reprint: "Cicatrization advances with greatest rapidity around the edges of the sore; the center taking the longest time to heal, in consequence of the activity of the process appearing to diminish, the further the new skin extends from the old tissues. *Indeed, if the ulcer be large, there may not be sufficient for the cicatrization of the center.*"*

But if it were true that all ulcers may in time be cured, under proper medical treatment, may it not be well to interfere in some cases of very

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* *Science and Art of Surgery*, by JOHN ERICHSEN. American Edition, p. 69.

much delayed healing? One of Dr. Watson's patients had waited ten years, and yet the sore refused to heal, and during a part of this time he was under Dr. Watson's care, and in bed. That all sores will not heal in ten years, even under good management, this case sufficiently illustrates; and I think there are very few large hospitals in which many similar cases might not be found.

ART. VII.—*On the Cause, Nature, Cure, and Prevention of Epidemic Cholera.* By M. L. KNAPP, M. D., late Professor of Materia Medica, and President of the College of Physicians and Surgeons of the University of Iowa; late Professor of Obstetrics and Diseases of Women and Children, in Rush Medical College; Author of "Lectures on the Science of Life Insurance," etc., etc.

TAKING a survey of the human family inhabiting this earth, it is the work of but a moment only, to examine the several agents in the material world that support them in life and maintain them in health: food and drink, atmospheric air, heat, light, and electricity, are all.

Medium, or moderate impressions of these agents necessary to life, or vital stimulants, maintain a physiological state, or the condition of comfort, buoyancy, and happiness, called health. Any other than medium, or moderate impressions, either in force or quality, especially if long continued, induce a pathological state, or a condition of discomfort and tendency to death, called disease. It is to be observed, however, that a considerable variation is compatible with health, especially if neither sudden nor long continued. Man is most comfortable, for instance, in a temperature of about 65° F., but he can withstand 100° if not long continued, or 20° below zero. So of all the vital stimulants, moderation is the law of health. But the earth must wheel its stated course around the sun, producing the phenomena of the seasons; hence, man must be subjected to extreme impressions in summer and winter, and the vegetable kingdom to droughts, frosts, and blights, abridging the vital stimulus of food. These are the laws of Nature, and in them are involved the causes of disease. No other external influences are known, or acknowledged to be present in the physical world, by which the health of human beings can be disturbed, and cannot be admitted without hypothesis.

Discarding all the hypothetical causes of Cholera that may have been offered, such as contagion, infection, epidemic influence, an imaginary entity, possessing the quality of portability, astral influence, malaria, or miasmata, (whether vegetable fungi, or animalculæ); tellu-

ric emanations; supernatural agency, called the displeasure of Providence, or the vengeance of God; I look only to known, natural causes of disease, or extreme impressions of the natural vital stimuli, for the cause of Cholera, and a rational explanation of all the phenomena it presents.

Deviations from a healthful standard, in the impression of the vital stimulus of food, or alimentation, constitute one class of causes of disease.

On this proposition I remark, that the natural law, governing man as an *omnivorous* animal, is as imperious as that which has ruled the ox, *herbivorous*, or the tiger, *carnivorous*. Infractions of this law call for a penalty; and it is as much a violation of it to withhold *all kinds*, or a variety of animal and vegetable food and fruits from man, as to stall-feed an ox on meats, or to graze a tiger on clover.

Deviations from a healthful standard, in the impression of atmospheric air, constitute another class of causes of disease.

On this proposition I venture the remark, that this source is most accused, but least at fault. Oxygen is tempered by nitrogen to a suitable medium standard for life and health, and the vegetable kingdom is continually absorbing its accidental impurities, and exchanging pure air: maintaining it in *statu quo*, or at the healthful, natural standard. It is impossible for more than merely confined localities to have an impure air, and ventilation quickly corrects the evil.

Deviations from a healthful standard, in the impression of heat, light, and electricity, always united, so far as science reveals, constitute a third class of causes of disease: these second and third classes are called meteoric causes.

On this proposition I remark, that the power for good or evil of this class of vital stimulants, as manifested in the annual variations of the seasons, is more remarkable upon the vegetable than animal kingdom. Man being enabled to heat up his system by oily, animal food in winter, and to avert, measurably, the discomfort of the high temperature of summer, by a diet of cooling acid fruits, can, by studying the laws of diet, greatly accommodate himself to these exigencies.

Here, then, this important matter is narrowed down, and presented to our common sense under three heads, embracing all known external influences in the material world capable of producing disease; and it follows, as a matter of course, that the cause which produces Cholera is to be looked for in one, or in two, of these sources, or in all three united. Now, it seldom happens, according to general observation,

that great sickness and mortality occur, without the combined and coöperating influence or agency of these three causes, one acting as the remote or predisposing cause, and the other two as exciting causes. The question, then, naturally propounds itself here, Which of these causes is most probably the remote cause of Cholera?

Looking at the phenomena as presented in the spread of Cholera, the two meteoric classes of causes named, covering high solar heat or insolation, vitiated air, vicissitudes, or sudden changes from heat to cold, and *vice versa*, humidity, rains, gales, tempests, thunder-storms, and the barometrical phenomena noticed, appear in immediate connection with its outbreaks, progress or aggravation, and are not only generally considered, but are universally held and conceded to be, its *exciting* causes. Hence it follows, that some error in the vital stimulus of alimentation is the *remote* cause of Cholera: there is no other remaining source in the world from whence to derive it.

Forced to this conclusion by sound logic, I would ask in the next place, Does the error in the vital stimulus of food, which produces Cholera, most probably come of a profusion, a poisoning, or a scarcity? All the world will answer the latter; for the poor and destitute are its special victims, while the rich, having means to purchase plenty and variety, though prices be high, and so to fulfill the omnivorous law, usually escape, and under a general poisoning of the food, rich and poor would indiscriminately fall. Furthermore, the population of a country holds in the ratio of its productions: famine is always followed by pestilence. Hence I am forced again, by universal observation and the axioms of political economy, to conclude the error arises from an abridgment; and as the vegetable kingdom is most obnoxious to the meteoric influences causing blights, I infer the difficulty lies in an abridgment of the vegetable productions and stores, or a scarcity in kind, leaving the poorer classes on a cheap, stale, refuse, animal, coarse, *one kind of diet*, without succulent vegetables.

Glancing now at medical history, it appears that, down to near the close of the last century, from time immemorial, a peculiar form of disease, called scorbutus or scurvy, was the great scourge of mankind in all parts of the world, destroying more lives than all other causes of death put together, wars and accidents included. The same mystery enshrouded its nature, its cause, and its spread, that now hangs over Cholera; the same bewilderment and confusion prevailed at the bedside; all the causes that have been conjectured to produce Cholera, were conjured up, marshaled, and arrayed under plausible, specious, and imposing hypotheses, and set down by their respective advocates

as the causes of scorbutus; but at last, the simple truth forced itself upon the world, that the cause of scurvy was some error in the vital stimulus of food; and it is now well enough ascertained, that the error consists in the absence of succulent vegetables: let these be wanting or even but partially wanting, for any considerable length of time, and, no matter what the diet in other respects, scurvy will make its appearance. (*Budd.*) A return to the free use of succulentvegetables and fruits, and this course pursued, will arrest and cure the disease. For the last sixty years this disease has been measurably and apparently banished, or so held at bay, or modified by the inculcated free use of succulent vegetables, fruits, and their juices, that it is not known or recognized when it does make its appearance, and its presence is not dreamed of, when but partially developed, although a whole community, municipality, or nation, may be under its power and evil influence, and all forms of disease dreadfully aggravated by its presence.

"We have seen," says Dr. Budd, "that the approach of scurvy is gradual, and that prolonged abstinence from succulent vegetables is necessary for its full development; but it is our opinion that something short of this, that a condition which might be correctly designated a scorbutic taint, must often occur in the lower classes in towns, but especially in prisons and asylums, towards and at the close of long winters, when succulent vegetables are scarce and expensive. Such a condition of the system would necessarily modify the character and course of supervening acute diseases; and it is worthy of most diligent inquiry, whether that form of scarlatina denominated *maligna*, and analogous types of other eruptive diseases, may not, in some cases, owe their peculiar aspect and character to the circumstance of a scorbutic taint already existing, when the system becomes subject to the specific poison of these several diseases. A fact which renders this probable is, that these types prevail most during and at the close of long winters. We may here notice the extraordinary prevalence of typhus in the severe winter of 1837–38, and the petechial character of that epidemic. Sir Gilbert Blane has remarked that the low spotted typhus is always most prevalent in long and severe winters. Willan also states, that the malignant form of scarlatina is usually limited to the winter months. The following paragraph, from Huxam's essay on small-pox, may also bear on this subject: 'I have never observed either the *vegetable or mineral acids* of any great service in the crude crystalline pox, but I have often found them highly useful in the *small black, confluent kind*, with *petechiæ*.' It appears to us, also, that by the common practice of physicians in many chronic diseases, patients

are kept far too long a time on a diet consisting of farinaceous food. When a moderate use of succulent vegetables is considered prejudicial, it would be advisable to supply the patient with their equivalent, namely, a certain proportion of orange or lemon juice." (*Tweedie's Practice.*)

Thus the experience of Dr. Budd, and others, fully confirms the observations of the writer, that scurvy underlies and aggravates all forms of disease that are developed towards the close of winter and through the spring, and, according to the writer's experience, through the summer months also, for he has particularly noticed the great aggravation of midsummer bilious fever and cholera-infantum epidemics, after long, cold winters and retarded springs, for the last twenty years, as an invariable result or coincidence.

The outbreaks of scorbutus, then, *per se*, as well as its more hidden and complicated manifestations, follow cold winters and retarded springs; yet its pernicious influence is felt, more or less, particularly among the poorer classes in cities, every spring. It generally begins to show itself during the interregnum of vegetable supplies that occurs between the going out of old and coming in of new or fresh stores, develops into epidemic form under solstitial influences, acting as exciting causes, and recedes in autumn, or as abundant supplies of fresh vegetables and fruit greet the markets, and their plentifulness reduces prices within the limited means of the poor.

These laws of scurvy are explained by the facts, that severe and protracted winters always frost and greatly abridge the vegetables and fruits in store; that they are generally preceded by summers of great heat and drought, which abridge production; and that, added to these evils, they weaken or debilitate the systems of all, by a prolonged low degree of the vital stimulus of heat, together with foul air within doors, confinement, or want of proper exercise; and these coöperating causes, pressing with greatest severity upon the poorer classes, whose diet consists of the coarsest and cheapest kinds of stale meats and breadstuffs, with peas, and beans, at best, for vegetables, when the summer heat comes on, with other depressing and disturbing meteoric influences, acting as exciting causes, epidemic scurvy is the result; and nothing but the abundance of autumnal supplies of succulent vegetables and fruits will restore the public health.

Placing these historical facts in connection with the preceding logical deductions, the human mind is compelled to yield assent to the adequacy of the cause assigned for the effect produced; and when it is considered how true must be the adage, "there is nothing new under the

sun," in the laws of Nature, I am forced to the conclusion that *Cholera is but a modified form of scorbutus*, or a younger sister-scourge of the same parentage; probably better expressed by calling it a hemorrhagic termination, or a manifestation of the dying phenomena of scorbutus.

I must either adopt this rational philosophy, or accept the most improbable alternative, that Cholera is a *new disease;* and lingering still on the confines of the history of scorbutus, I find its ever Protean character, its ever changeful, chameleon dress, its ever insidious, insinuating, stealthful invasion of masses of mankind, peculiarly situated, its ever misleading manifestations, strange vagaries, and anomalous phenomena, perfectly answering and solving the matter, if I cut myself loose from the dogma that Cholera has other, and a specific cause, and adopt this innovation in etiology, that Cholera is nothing but a symptom of scorbutus—a serous hemorrhage from the petechiæ, or lesions of the mucous membranes of the stomach and bowels.

The reasons drawn from observation, for believing Cholera to be of scorbutic character, are as follows, to wit:

1. The coincidences of cold winters and retarded springs preceding its outbreaks. It is a matter of history that the winter of 1831–32 was one of the coldest winters ever known. The rivers and harbors of the United States were frozen from November until April, and winter was literally found lingering in the lap of May. The preceding summer was one of great heat and drought. Reasoning from the intensity of these meteoric influences throughout the United States, the crops must have been distressingly abridged, the stores of succulent vegetables and fruits extensively frosted, and prices exorbitantly high in the spring of 1832. Under the operation of these causes of scurvy, active in the highest degree when the summer heat of June of that year struck the United States, the Cholera broke out in New York and other cities and large towns, and raged until the scorbutic subjects were slaughtered, and the public health was repaired by the ripening and free use of vegetables and fruits. Unfortunately for the state of the public health during that season, fruits and vegetables were interdicted by medical opinion, the notion gaining almost universal credence that they were exciting causes of Cholera; which opinion has ever since prevailed in the United States.

The same constitution of seasons, I am informed by an intelligent English gentleman, prevailed in Great Britain in 1831–32, and accordingly the Cholera broke out in London, and other large cities and towns of the Kingdom, and also in Paris and other cities of France.

Not to undertake to pursue the cause through blights, by tracing it on the back track through Prussia and Russia, the year preceding, and so on to India, suffice it to note that its outbreaks and spread in America were governed by the laws that are known to govern scurvy, the date of its advent in the cities on this continent answering to the relative intensity of the causes of scurvy that should have been, and doubtless were, present to call it into action. It broke out of priority, as it should have done, in Quebec (the colder the country, other things being equal, the more intense the causes of scurvy), on the eighth of June; on the tenth, at Montreal; a little later at Kingston, and so on in its southwest course, up the lakes, to the valley of the Mississippi, into successively warmer regions. It appeared in New York on the twenty-fourth of June; at Albany, where poverty and destitution were less intense, though the latitude is higher, on the third of July; at Boston, also later, for the same reason; at Philadelphia on the fifth of July; and at Baltimore a week or so later, and so on.

It made its appearance, partially, again in the year 1834, in the cities of the United States, after a rather cold winter, and surely the most frosty, blighting spring, within the memory of the oldest inhabitants. All the fruits, nearly, apples, pears, peaches, plums, grapes, currants, gooseberries, etc., were blighted by a chilling frost that occurred about the middle of May. The peaches, apples, etc., of the size of sparrows' eggs, fell from the trees. The very forests put on an autumnal gloom. When solstitial influences came to bear upon this preparation of the systems of thousands of the poorer classes, always most predisposed, the Cholera broke out with considerable severity in various cities of the United States. The fact was noticed, that it seemed to rage more fiercely again in the same cities where it was most severe in 1832, and where, no doubt, the causes of scurvy were most intense, and where, besides any influences of topography, the citizens were schooled and trained in the prohibition of vegetables, fruits, and greens; and the country people, not finding ready sale for these products, their culture was neglected, and they were deterred from marketing them through fear.

Again, the winter 1848–49 was a remarkably cold winter all over the United States, the spring of '49 greatly retarded, and all degrees of the scorbutic diathesis were observed at the bedside by the writer of this, who had for years been an observer of its stealthful, annual appearance. The universal spread of Cholera in the cities of the United States, in the summer of 1849, is well remembered, and its continuance until the coming in and use of the new crops of vegetables and fruits.

Casting a glance across the Atlantic, the years 1846–47 were years of dearth, scarcity, and blight in Europe, particularly of the potatoe, the most valuable antiscorbutic vegetable known; and the scurvy and Cholera together followed, scourging the nations generally. Writers in describing the spread of Cholera in Europe, in 1847, say, substantially, that it started from India again, early in that year, passed through the cities of Persia and those along the shores of the Caspian, reached Astracan in July, and appeared at Moscow, faint and weary, in the fall, where it took a refreshing sleep through the winter, but woke up in June, 1848, much refreshed and invigorated, and pursued its travels *via* St. Petersburg, Berlin, Hamburg, etc., to Edinburg and London, where it arrived in November, *en route* for Paris. It is worthy of remark that it struck England again, in her weakest and most scorbutic point, her Newcastle coal mines, and foul holds of her coal vessels; and that, prior to its reaching France, the *cause* of it set sail from Havre for America, in two emigrant ships that sailed in October and November. In the October ship it broke out when sixteen days at sea; and the emigrants were landed at Quarantine, in New York, in November, and the disease spread through the Quarantine Hospital, where the sickly, scorbutic inmates were kept on a routine dietary, and whose cup of affliction was made to run over through panic and an increased accumulation of foul air; and a few cases occurred among the immigrants that went to the "Five Points," in the city of New York, where, however, it could make no progress because of the abundance of fall fruits and vegetables, so it again slept through the winter, the intensely cold winter that followed. In the other ship it broke out when twenty-six days at sea, the *cause* in the emigrants having been more subdued before embarkation, by autumnal fruits and vegetables, than in those of the other ship, which sailed a month earlier; and the passengers were landed in New Orleans, in December, where the disease spread among immigrants and the poor, the weather, for the season of the year, being hot; and it continually appeared on the Mississippi in steamboats, among immigrant passengers, all winter. In the summer of 1849, as observed, it broke out, generally, in the cities of the United States. Now, in all these movements, or rather outbreaks, in Asia, Europe, on the Atlantic Ocean, and in the cities of America, it obeyed the laws of scurvy, and was rendered active in proportion to the *remote* and *exciting* causes of scurvy present; and the emotional, exciting cause of *fear* or panic must not be overlooked.

The more partial epidemic of 1850 is to be explained by the more partial abridgment of vegetables and fruits in various localities, owing

either to blights, the withdrawal of labor from production during the sickly summer of 1849, or the false doctrine that vegetables and fruits are injurious; probably all combined. The scurvy was noticed again by the writer, at the bed-side in 1850, and it broke out in the Commercial Hospital of this city in July of that year, while the Cholera was raging here. (*Western Lancet*, 1851.)

The Cholera manifested some activity again in the summer of 1852, after another very severe winter, and a previous summer of great heat and drought, in various localities in the United States. The summer of 1852, however, was a cool one, in the main, and the exciting causes of Cholera, therefore, not powerful. Its ravages at Maysville, Ky., Wheeling, Va., and sundry other points in the Mississippi Valley, are matters of history, and can only be accounted for on rational principles, by tracing the cause to the constitution of the previous summer, abridging production in the localities surrounding the cities and towns where it raged, and the inclemency of the winter, frosting the vegetables and fruits in store. Finding that the conclusions drawn are all the way thus far supported by facts, the coincidences of cold winters, and the causes that produce scurvy, and that during other years there have been no epidemic manifestations of Cholera, the argument seems a good one and worth pursuing.

Applying the same theory, the want of succulent vegetable food, to the rather general prevalence of Cholera in the cities of the United States this season, 1854, a rather intense causation is found, of general application, in the extravagantly high prices of provisions during the present year, high prices not only betokening scarcity, but being the same in effect to the poor. I notice the fact in the public prints, that scurvy and Cholera were both found raging simultaneously in the Poor-house at Buffalo this summer.

Thus the coincidences of cold winters and retarded springs, preceding the outbreaks of Cholera in the United States, its vernal appearance, solstitial ragings, autumnal recessions and wintry slumbers, together with its uniform and close communion with scurvy, prove that it is produced and governed by the laws that produce and govern scurvy. Doubtless, if the statistics were at hand, that the meteoric phenomena and constitution of the seasons could be appealed to throughout Europe and the world, the spread of Cholera would appear as the effect of cold winters, droughts, frosts and blights, in all places wherever it has prevailed, and that its ravages would be found to be in the ratio of the intensity of the causes, remote and exciting, that produce and develop scorbutus.

2. The classes of persons who are the victims of Cholera, are those subjected to restrictions in diet; to a routine dietary; to a poor diet; to inactive habits and to confined, foul air, as soldiers in barracks and in camp; sailors and boatmen; emigrants or ocean passengers; inmates of poor-houses, hospitals, asylums and prisons; inhabitants of besieged cities; dwellers in all filthy, poverty-stricken, God-forsaken localities of cities; immigrants just disembarked; laborers on public works; and the poorer classes in cities—precisely those who, from time immemorial, have been the victims of scurvy.

3. Admitting Cholera to be of scorbutic character, all the strange vagaries attending its history and spread admit of rational explanation, to wit: its home and habitude in burning India, where the poor live on rice, any one-kind of diet without succulent vegetables being sure to produce it; its flourishing in frozen Russia, where the serfs feed on train oil; its march with armies, where the dietary is pork and beans; its breaking out at sea, without the possibility of contagion causing it, where the emigrants live on ship-bread and salted meat; its special regard for immigrants just disembarked, crowded into filthy apartments in confined localities of cities, their blood rendered still more and more scorbutic, by a continued cheap dietary of pork, bread and beans; its recession in autumn, dormancy during winter, vernal reappearance, and summer ravages; and its intensity being in direct ratio to the causes that produce scurvy. In fine, there is not, within the writer's knowledge, a circumstance or anomaly in the history or spread of Cholera, that cannot be rationally explained by assuming the disease to be modified scorbutus.

On this assumption it is not only rational but quite explicable, that one family having lived through a cold winter and spring without vegetables, should die the following summer of epidemic Cholera, or whatever form or modification scurvy may take on, it having always been of Protean character, while the neighboring family, having subsisted chiefly on potatoes, should all escape attack; that the feeble and panic-struck should fall first; that the first cases should appear to be the most malignant and die on shortest notice; that a sudden change of food, even vegetables, and boiled cabbage in particular, should appear to produce it; that great summer heat, sudden changes of the weather, foul air, etc., should develop it into epidemic form; that it should differ essentially from Cholera morbus; that it should leap from city to city, and let country people generally go free who raise, store, and consume abundance of potatoes, turnips and other vegetables, apples, peaches and other fruits, and only send their surplus to market; that

it should give New England almost a *carte blanche*, where pot-luck and apples and cider constitute the winter and spring dietary; that it should travel, apparently, as we have seen it described by the date of its outbreaks, in the commercial thoroughfares, along rivers, canals, lakes, etc., and prove most fatal in the cities along those low, flat, cold, damp localities, as Chicago, Sandusky, etc., in which localities vegetables and fruits are not only scarce but of indifferent quality, and the coöperating causes of scorbutus powerful; that a villager not remote from one of those cities, whose vegetable stores had been frosted, on visiting the city when Cholera was raging, should over-task himself in the hurry of business, eat little or nothing through fear and anxiety, sleep disturbedly, see the corpse of one dying of Cholera that night at the hotel, leave for home before breakfast, reach home perfectly exhausted, be taken with Cholera and die before next morning, two or three of his family and sundry patatoless neighbors "catch it," and follow in quick succession, and a potato and turnip, beef and cabbage eating farmer-neighbor hard-by, lay out all the corpses and not "catch it;" that after killing off the constitutionally feeble, and those who had transgressed most by not eating vegetables, the epidemic should decline, and as vegetables and fruits came in and were more eaten, the later cases should become milder and more manageable; that persons flying from a city or locality where the Cholera was raging, should, some of them, be attacked, in whatever locality sought, no matter how high, mountainous, rural or healthful the place, or pure, cool, and bracing the air, the cause being in their own veins.

I notice in the *Galena Jeffersonian*, that the Cholera lately broke out among three hundred laborers on the railroad near Galena, Illinois, quartered on Scale's Mound, four hundred and fifty feet above the level of the Mississippi, the ground dry, the air pure, and no cause to be assigned for its appearance. The laborers were scattered, and down to the date of the notice, over one half of the number had died at the various points reached. The question is asked, "Who can give an explanation of the cause that produced such terrible results? Such results perplex medical science and put at fault all theories in regard to the phenomena of Cholera."

On this I remark, that, assuming Cholera to be a modified form of scorbutus, nothing is easier of explanation than the above awful catastrophe, and every similar result that swells the catalogue of this pestilence, so perplexing to medical science and contradictory to false theories. There are, comparatively, no vegetables and fruits raised in all the mining regions round about Galena, to my personal knowledg

and the scorbutic diathesis is so common a phenomenon there every spring season, that it would be remarkable if absent a single year, and a miracle, almost, if absent this year of exorbitant prices. The contractor having those three hundred laborers under his care, had quartered them high and healthfully, which fresh air of heaven cost him nothing, but when it came to paying out four or five dollars a bushel for three hundred bushels of potatoes a month, the case was different; besides, the potatoes, or other succulent vegetables, were not to had at any price in all those regions in May, June, and July; and those three hundred laborers had lived on pork, and beans, and bread, until, prostrated by midsummer heat, modified scorbutus or Cholera broke out; and it broke out in them wherever they went, and slew them as transgressors of the omnivorous law, it mattered not where, whether in the temple of Hygeia or the garden of Eden: the transgression had been committed, and the penalty was sure to follow. Nothing short of a potatoe-patch might save them at that juncture, or an orange grove, which they were sure to miss in all those regions.

Thus, all difficulties vanish, darkness gives way to a fullness of light, every thing is explained on rational principles and by the natural laws—Cholera is in the *system* and not in the *air*, laid there, or produced by violating the law of kindness constituting man OMNIVOROUS, by which his happiness is so much exalted and enhanced: but the law must be fulfilled or the death-penalty will follow. With this key explaining the cause, the nature, and the phenomena attending the outbreak and spread of Cholera, it would now appear mysterious if the phenomena were different and the disease pursued any other course.

4. The phenomena of Cholera at the bed-side, with this key in our hands, reveal so plainly the pathognomonic symptoms of scorbutus, that after rubbing the eyes a little, the better to see through the drapery of some false appearances, every pathologist will discover a full length portrait. The great leading phenomenon is *diliquescence*, or a tendency to the liquefaction of the system. Vomiting and purging are but the proof of what I say, mere accidents. The serum of the blood is thus being passed off. The solids are dissolving and keep up the currents through the bowels and the skin. So in scorbutus, the dissolving of the solids is the prominent feature: hemorrhage, diarrhœa, salivation bear witness. Hemorrhage of all the constituents of the blood is common in scorbutus, hemorrhage of serum only *generally* takes place in Cholera, the structural lesions of the mucous tissues being less deep. The vital powers are at the lowest ebb in both in-

stances, and great emaciation, sudden death, and clearness of intellect till the last, fill up the measure of the leading phenomena in both. Furthermore, cases of Cholera now and then occur where there is neither vomiting nor purging, the mode of death being precisely as in scurvy, after hemorrhage or other shock, the phenomena being sinking, prostration, dyspnœa, gasping, jactitation, and death, with clearness of intellect to the last. The difference in the symptoms all told, is never half so great or apparent as the difference between the ordinary symptoms of ague and fever, and pernicious fever or congestive chill, which all pathologists hold to be the same disease, produced by the same cause.

5. The anatomical characters in Cholera, are not less positive in declaring the identity of its pathology with that of scurvy. The great structural lesion which dissection reveals, is *disintegration*, and in particular of the mucous tissues. The epithelium is detached from the internal petechial spots and passed off by the diarrhœa, constituting the white floculi in the dejections; or it is vesicated in extensively papillated patches; or abraded, but adherent in agglutinated coatings; and these morbid appearances extend not only throughout the gastro-pulmonary, but the genito-urinary branches of the mucous membranes; and patches of *ecchymoses* are often found in the mucous linings of the bowels, and a chocolate-colored fluid as their contents, denoting the oozing out of red blood; and "almost all parts of the body, the brain and spinal marrow, the substance of the heart, the abdominal viscera, the limbs, even the spongy substance of the bones, exhibit signs of venous congestion, and *large ecchymoses* are frequently found in all the parenchymatous glands." (*Wood.*) Now, not to lengthen this article by quotations, precisely the same characters are not only present in scorbutus, but they constitute *the main lesions of structure*, as every pathologist must bear witness, and the ecchymoses spoken of extend very often to the skin, constituting the petechiæ and patches of purpura, so frequently noticed.

6. The curative and preventive effects of antiscorbutic treatment in Cholera, in 1849 and '50, furnished the hints that have led to the investigations which have established the writer's present convictions and conclusions. It will readily be believed, therefore, that there was some degree or tangible amount of testimony in this way at the bedside, enough at least to set the writer thinking, reasoning, reflecting, and inquiring. Most, though not all, of the discoveries in Medicine have come in the same way. Some have been the result of the induc-

tive mode of reasoning. The curative virtues of strychnine in paralysis were inferred from *a priori* reasoing on its physiological effects.

Although scorbutus and Cholera were seen complicated, as then supposed, and domiciliated together "cheek by jowl" in 1849 and '50, in Chicago, where the writer was then practicing, and antiscorbutics were freely administered, and their happy effects witnessed from day to day, continually, in fact, throughout both epidemics, still they were never relied on *exclusively* after the patient was stricken down, for the reason that the writer had then no theory on the subject. The calomel, sugar of lead, and morphine treatment was always combined, or some other empirical resort. The scorbutic diathesis was distinctly seen for many weeks prior to Cholera becoming epidemic, and was treated alone and complicated with the various forms of vernal diseases. In looking back from the writer's present visions of the nature of Cholera, upon the chain of evidences through which clearness of views has come, it is matter of surprise now, that his conclusions should not have been earlier drawn, but such is the "magic of a name," and so powerful are imbibed dogmas in medicine, that the human mind is not left free to interpret rightly the phenomena seen at the bed-side.

The antiscorbutic remedies which the writer now sees were effectual on account of their antiscorbutic virtues, were the common salt emetic (chloride of sodium), which he was continually in the practice of administering as a first remedy, and soda powders throughout the attack. The soda powders were indifferently composed of the bicarbonate of potash or soda, and citric or tartaric acid. The salts of potash and soda, and the vegetable acids named, stand at the head of the list of antiscorbutic remedies, and the known efficacy of common salt in arresting hemorrhage also further explains its value in Cholera. These views also throw light on the success that has attended the saline treatment.

The preventive relied on was punch (lemonade dashed with brandy), with five or ten grains of quinine to the quart, and when diarrhœa was present, a grain of morphine was added. This combination was relied on from having observed scorbutus complicated with vernal agues, and midsummer bilious fevers in the malarious districts of Illinois for nearly twenty years, especially after cold winters, and from the further observed fact that Cholera delighted in the same localities, particularly along the Michigan and Illinois canal. The writer could go on and specify numerous instances of the prophylactic effects of the remedy, in families where, one or two members being struck down with Cholera,

the balance were put under the daily use of the mixture and antiscorbutic diet and escaped attack. Though nearly prostrated by a scorbutic taint, and not as generally expressed by that cloak for our ignorance, the senseless phrase "epidemic influence," their strength and spirits would revive, their tongues become clean, their cholerine cease, their appetites return, and an array of evidences as strong as Holy Writ proclaim their salvation from Cholera by means of the antiscorbutic preventive.

7. The analysis of twenty cases of Cholera observed at Pittsburgh, Pa., on the 25th and 26th of September, 1854, chiefly in the Mercy Hospital, contains the crowning testimony that removes all doubt of the correctness of the writer's views, reduces the matter to certainty, theory to knowledge, and incorporates this discovery into the pages of medical literature among the established truths of medical science.

On or about the 15th of September instant, the Cholera broke out at Pittsburgh, Pa., and continued to increase in force for some eight days. On the 23d the writer repaired to said city and arrived there late on the evening of the same day (Saturday), and found the epidemic had begun to decline. The city proper was the chief locality that suffered. In a former visitation the town of Birmingham, south of Pittsburgh, across the Monongahela river, suffered most.

The epidemic commenced with great suddenness, after heavy showers of rain with thunder and lightning, and the sinking of the mercury in the thermometer from 90° to 65° F. in a single night. It broke out that night in every ward in the city, showing conclusively that it obeyed some law other than that of contagion or portability. There had occurred some half a dozen cases at the southwest end of the city, prior to that night; but on that night forty cases or more occurred in the most widely scattered manner. It struck down the feeblest member or members of whatever family it touched, and about three-fourths of all who perished during the epidemic were women—principally mothers. It did not spread through or destroy whole families, as it often does, but seemed satisfied to take the weakly and debilitated only. It increased in force for something over a week, say ten days from the first reported deaths, when the mortality reached to over one hundred deaths a day, in a population of some 60,000 souls. The crisis of the epidemic occurred under an equable temperature of about 70° F., and the abatement or decline was rapid, the weather holding pleasant.

[To be continued.]

PART SECOND.

CRITICAL ANALYSIS.

ART. VIII.—*A Systematic Treatise, Historical, Etiological and Practical, on the principal Diseases of the Interior Valley of North America, as they appear in the Caucasian, African, Indian and Esquimaux Varieties of the Population.* By DANIEL DRAKE, M.D. Philadelphia: Lippincott, Grambo & Co. 1854. First Series, 8vo., pp. 878; Second Series, 8vo., pp. 985.

THIS great work is now presented to us complete as its gifted author could make it ere his earthly labors were terminated; and, though the task of filling up the plan which this great medical philosopher had elaborated and nearly perfected yet lacked a few finishing touches, his name will need no other, and could have no more enduring monument than this incalculably valuable contribution to the literature of our profession.

But Dr. Drake did not labor for personal fame: he was one of Nature's noblemen, and needed no such incentive to activity. Loving knowledge for its own sake, he sought and studied facts as nature presents them, traveled over vast distances, entered into extensive correspondence with his brethren, that he might collect and analyze the results of their observations and experience; while at the same time he faithfully inspected and studied the medical topography of the Great Valley. This was a labor of many years, a truly Herculean task for a single individual; a task that none have shared who now enjoy the fruits. But like every true philosopher, Dr. Drake found ample reward for all his labors in the personal pleasure he enjoyed in his studies. Our author was peculiarly fitted for the great work he undertook. Since the commencement of the present century, a practicing physician in Ohio and Kentucky, where he had received his professional training, and for many years a professor in one of the largest and best medical colleges in the Valley, and a clinical teacher in one of its most important hospitals, his mind was well prepared for such an

undertaking, and his masterly genius was developed in consonance with the broad and fertile expanse of the rapidly-populating territory of the Great West.

No other section of the globe presents a region, the medical topography of which can be studied upon so extensive a scale, and there is no other country where diseases present more varied and important regional characteristics:—A vast hydrographical basin, including six millions of square miles, or three-fourths of an entire continent; touching the Pole of Cold on the north; embracing in its more fertile and populous section the entire width of the temperate zone; and on the south extending by its broad base into the region of intertropical heat;—in such a vast valley the prevailing diseases must exhibit many and varied topographical and climatic as well as special pathological peculiarities, of great practical importance.

Dr. Drake's first volume relates especially to the topography and climatology of the Valley, while the second series of the treatise is devoted to the consideration of the general and the special pathology of the principal diseases, together with the leading therapeutical facts and principles which have been established by the most reliable experience. Of the first volume it may be justly affirmed that, for comprehensiveness of scope, accuracy and extent of research and detail, and scientific order of arrangement, it has no equal in the medical and topographical literature of any country; while of that portion of the treatise included in the second series, it may be safely said that it constitutes one of the most eminently suggestive and practically valuable contributions ever made to the literature of general pathology and practice.

There may be some physicians who have regarded the first series of Dr. Drake's treatise as of secondary importance, and of little practical interest to the common practitioner; but such an estimate of the extensive and highly important researches there embodied, would be an error which no intelligent physician could commit. In no unimportant degree do diseases take their main characteristics and peculiar aspects from the climatic and topographical peculiarities of the region in which they occur; hence, a knowledge of these ever-varying peculiarities and anomalous modifications, in the etiological history of diseases, is certainly of no less practical importance to the physician, than is a perfect familiarity with the established symptomatic and pathological history of any disease which is at all influenced by zymotic or other general agencies.

The immortal Coan philosopher, the father of medicine, deemed

this department of our knowledge of diseases of special importance, and he wrote extended treatises on Places, Airs, Waters; and Winds. What Hippocrates so nobly attempted, without any of the aids and appliances of exact science, our author has, with a success commensurate with his almost unlimited scientific means, most satisfactorily accomplished.

An extended and complete analysis of this most comprehensive treatise would be inpracticable in the limits of this Journal, and it is not demanded, inasmuch as the work is within the reach, and should be in the possession, of every American physician. We shall, therefore, consider it our duty only to call attention to the importance of the work undertaken by our author, pointing out some of the richer fruits of his labors, while we discuss some of the more important deductions to be drawn from his experience, observations, and researches.

An eminent geologist has remarked that, "a knowledge of the hydrography of a country aids as much in determining its geology as does its orography,—that is, its description of mountains." *

As much may be affirmed of the importance and certainty of the relations naturally existing between the hydrography and climatology of any given section of the habitable globe, and the general and distinctive characteristics and peculiarities of the prevailing diseases in such locality. Given, in proper connection, the general course and character of the rivers, the character of their banks, and their mode of emboucheur; with the form, altitude, and mode of outlet of the lakes, of any given section of the earth's surface, and the main features of the geology of that region may be very certainly determined. But upon a large scale only can such investigations and deductions be reliably made, mere local descriptions furnishing insufficient data for reliable and accurate conclusions. So, in the study of medical topography and climatology, researches should be prosecuted upon an extended scale. To Dr. Drake belongs the honor of having first accomplished such researches with any thing like success, and these investigations have the merit of having been made in the most extensive hydrographical division of the globe. It should be borne in mind, that these researches possess a general as well as a local value; for the general principles deducible from such investigations will be found to apply, with greater or less certainty, to any corresponding hydrographical and climatic region of the earth. But in reference to the social and

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* *Outline of the Geology of the Globe.* By EDWARD HITCHCOCK, D. D., LL. D. Boston, 1854.

political prospects of the great Interior Valley of North America, its sanitary condition—present, and prospective, constitutes one of the most important subjects that ever invited scientific research from philosopher or philanthropist; for in that Valley is rapidly congregating a mightier nation than ever before has been gathered on any one geographical division of the earth.

A rapid glance at the Great Valley, cannot but impress any reflecting mind with the vastness of its extent, and the importance and certainty of its destiny. Even from its geographical characteristics the philosopher may read its future history as a favored dwelling place for man, and in immediate relations with this subject are all the facts bearing upon its medical topography. Standing on almost any summit of the Appalachian range, one may see the branching arms of the great Father of Waters reaching up to the eastward, almost within sight of the Atlantic; and following in the direction of these streams and rivers, towards the grand synclinal axis of the Valley, we pass over the rich alluvial bottoms in all the river courses; while over immense reaches of extent, from the fountain-head of the Ohio to the distant bifurcations of the Missouri, and to the Red River of the North, is found a soil of inexhaustible fertility, covering the upper and lower silurian geological stratas, whose disintegrating and fertilizing constituents are inexhaustible, while distributed over all the broad basin are the richest coal-fields in the world. Pursuing our course southward, we pass over a broad belt of the cretaceous series, extending from Georgia and Alabama far to the northwest, whose rich soil covers the remains of the great Zeuglodon, with huge crocodiles, sharks, and fishes; and deep layers of the half-fossilized crustacea that once peopled a shoaly sea, but now form the aptly termed "rotten-stone" of all that region; while next southward, is the broad alluvial base of the Great Valley, in the deep black soil of which, by its countless bayous, are entombed the giant animals of the Tertiary Period; and where, but recently in the earth's history, mightier rivers than even the present Mississippi found their way to the sea, through ever widening and multiplying deltas.

Descending from the Rocky Mountains, we pass over broad plains, rich savannas, and broken or rolling prairies, even richer than those which lie east of the Mississippi; while on the north, quite up to the dividing or arctic ridge—which is as far to the north as civilized man ever selects his home—the soil is wildly luxuriant, and it is a land of springs and abundant moisture. *Secondly*, this great Interior Valley is in no section of its axis elevated to a sufficient altitude to protect its

population from malarious fevers—Prairie du Chien being but 642 feet above the level of the sea, the mouth of the Missouri less than 400, and the mouth of the Ohio less than 300 feet above the level of the Gulf of Mexico; while the great lakes, which drain the waters of the immense paludal region whose synclinal axis passes through those great inland seas and the St. Lawrence, have a surface altitude only of from 600 feet at Lake Superior, 500 at Buffalo, and 232 in Lake Ontario, to the tide waters of the St. Lawrence at Quebec. A valley so low and yet so wide, as is the double inclined plane of this great hydrographical basin, is not found elsewhere upon the face of the earth, while, by its unobstructed sweep from Cancer to the Northern Pole, winds and prevailing atmospheric currents are established, which, in connection with the special and diversified geographical characteristics of this vast territory, give origin to certain definite and important climatic and meteoric laws, which directly and in an important degree affect the character or determine the nature of the diseases there prevailing. Such is the field described and traversed by Dr. Drake, and such the outline sketch of the work he so nobly undertook.

In the goodly volume of the First Series of his researches, we find embodied all the reliable data he could collect with reference to every point connected with the general and the special topography of the Great Valley; and these facts and statistics are detailed in all their life-giving relations, so that even any observing, though unscientific, reader could not fail to catch some of that inspiration by which the mind of this great Naturalist and Philosopher was first enabled to glean and garner his vast collection of facts, and evoke therefrom those grand generalizations and principles which attract all readers, and have given character to the work and its author.

It is surprising to see with what comprehensiveness of scope and philosophical acumen Dr. Drake's plan of study and research swept the whole field of Nature. He attentively studied every fact relating to the topographical, hydrographical, meteoric, social, and physiological etiology of disease; the mountains, lakes, rivers, soil, and vegetation, geology in its relations, altitudes and configurations; marine and terrestrial relations, lacustrine, valley, and mountain influences, with all the climatic agencies known; and, in his extended travels, testing every doubtful question,—with his own hand and eye determining many points hitherto neglected by naturalists and philosophers; and, lastly, giving us the best tabular views of thermometric, barometric, aqueous, and electric meteorology ever yet produced, for professional purposes, in our country.

Having laid such broad and reliable foundation for the special study of the diseases of the Great Central Valley of North America, Dr. Drake's Second Series has been looked for, with deep interest, by the profession, and we think that, however high may have been any anticipations in regard to the character of this part of the treatise, there is no one but will find it fully equal to his expectations. Of its general character we have already spoken. It remains for us, now, briefly to examine the specialities of which it treats.

This Series is included in Five Parts, divided as follows: 1st.—Autumnal fever, in eleven chapters; 2d.—Yellow fever, in eleven chapters; 3d.—Typhous fevers, in sixteen chapters; 4th.—Eruptive fevers in nine; and, 5th.—The Phlegmasiæ, in twenty chapters.

Under the term Autumnal Fever, which very happily avoids any etiological or pathological hypothesis, are included all those fevers which, by some peculiar meteoric causes, are rendered strictly endemic during the autumnal season. Concerning its geographical limits, our author remarks that:—

Being an endemic of all hot climates, we are not to look to the shores of the Gulf of Mexico for a southern limit to our autumnal fever. Its base is, in fact, within the tropics; and prevailing, of course, in Havana and Vera Cruz, it is found wherever there are inhabitants, on the northern coasts of the Gulf, between these two cities. In ascending all the rivers which discharge their waters into the northern arc of that closed sea, from Cape Florida round to the Panuco river, it is still met with, and sometimes, as we shall hereafter see, from the influence of local causes, displays greater prevalence and malignity than it shows further south and on a lower level.

In every other direction than the south, this endemic has its geographical limits. To the east, its barrier is the Appalachian Mountains, into the very gorges of which, however, it ascends by the valleys which penetrate their flanks. But, as that chain is not found south of the thirty-third degree of latitude, it has, below that parallel, no eastern limit but the Atlantic Ocean. To the southwest, the Cordilleras of Mexico, and the southern Rocky Mountains, constitute its boundaries; while, in higher latitudes, it ceases on the great plains of western desert, long before we reach those mountains. From what can be collected out of the travels and expeditions of Lewis and Clark, Catlin, Fremont, and Gregg, not less than from fur-traders and Santa Fé merchants, it is almost unknown at the distance of three hundred miles from the western boundary of the States of Missouri and Iowa, and above the latitude of 37° N. To the north, it does not prevail, as an epidemic, beyond the forty-fourth parallel, and ceases to occur, even sporadically, about the forty-seventh.

The conditions which impose geographical limits, and give unequal prevalence to Autumnal Fever, Dr. Drake demonstrates to exist, 1st. In the soil; the largest proportion of organic matters marking, other

things being equal, the highest degree of prevalence; 2d. Living vegetation; 3d. Surface water, saturating the air with vapor, and giving a high dew point; contributing to the growth of a luxuriant vegetation, as well as to its decomposition; or, by promoting chemical action in the soil; and, possibly, (in Dr. Drake's opinion—*probably*,) determining the production of animalcules and microscopic plants, or, inducing electrical perturbations in the atmosphere; 4th. Temperature.

Our author gives us a chapter of speculations on the efficient cause of Autumnal Fever, in which is embraced a very good synopsis of the arguments usually adduced in support of the various popular theories on the subject. Concerning the hypothetical existence of a special *malaria*, he shows that, although facts undeniably establish a connection between a certain condition of the earth's surface and Autumnal Fever, they do not prove the existence of malaria, or a *gas*, as the efficient cause of the fever; and he very justly remarks "that while the conditions under which our Autumnal Fever appears are sufficiently clear to observation, the existence of a special gaseous agent, resulting from them, remains to be proved." The *cryptogamic*, or what he denominates the *vegeto-animalcular* hypothesis, Dr. Drake conceives to be the most rational and plausible,—answering more satisfactorily than any other theory all the conditions of the fever. Our author did not borrow this hypothesis from Dr. Mitchell, or any of the disciples of Ehrenberg, for in his valuable treatise on the History and Treatment of Cholera, published in 1832, he very distinctly announced his confidence in the animalcular hypothesis, as best accounting for the etiology of cholera. As regards the Fever in question, Dr. Drake remarks: "It appears obviously, I think, that the etiological history of Autumnal Fever can be more successfully explained by the vegeto-animalcular hypothesis than the malarial. But both, in the present state of our knowledge, must stand as *mere hypotheses*. Neither can claim the rank of a theory; nor will it be entitled to the confidence of the profession until many additional facts are brought to its support." But he adds: "I cannot, *a priori*, attach much practical importance to the discovery of the *efficient* cause of Autumnal Fever." He has, therefore, devoted but little space to the discussion of the subject. Those of our readers who may desire more fully to examine the various questions and facts relating to the natural history of malaria, together with the history of the opinions and arguments connected therewith, will most profitably consult the erudite treatise of Dr. La Roche, recently noticed in this Journal.

In his chapter on the mode of action and first effects of the remote cause of Autumnal Fever, Dr. Drake shows that the weight of argu-

ment is in favor of the doctrine of the primary action of the specific poison on the blood, and, through it, upon the nervous system and the solids. His remarks upon this subject are brief, and, though suggestive, contain nothing new.

Guided by those distinctive characteristics which are found to be most important in practice, our author describes Autumnal Fever under the following natural arrangement of varieties:—1st, INTERMITTENT, —*simple, inflammatory, malignant.* 2d, REMITTENT,—*simple, inflammatory, malignant.*

As regards the history and treatment of the simple and the inflammatory forms of intermittents, Dr. Drake's observations and experience correspond with the opinions and practice of the profession generally; his account of them is, therefore, brief: but in reference to the malignant form of intermittents, he very appropriately devotes a long chapter to its faithful investigation. This is the type of fever popularly denominated congestive, or malignant congestive, algid, soporose, etc.—a malady almost as much dreaded in the West as is the Asiatic cholera, which, in more respects than one, it closely simulates. Of its history and characteristics, our author remarks:—

I need scarcely say that this variety of intermittents never constitutes an entire epidemic. It is mixed up with the other varieties; and, in most localities, the proportion which these cases really bear to to the others, is much smaller than is generally supposed, at least by the people. * * * The regions of the Valley most infested with the fevers of this order, as far as I am now prepared to state, are, *First*, The level portions of Alabama, Mississippi, and Louisiana, including the zone of estuaries around the Gulf: *Second*, The southern shore of Lake Michigan, from Chicago, round to the St. Joseph River, and of Lake St. Clair, and Lake Erie, from Lake Huron to Lake Ontario, near the estuaries of the creeks and rivers. The intervening region, and the country off to the west of Lake Michigan, are, however, not exempt; but the proportion of cases, with the exception of a few limited localities, is much less. * * * Relying on the answers to my questions, concerning the increase or decrease of this fever in the regions where it prevails most, I may say that in latter years it has been increasing, and that this increase appears to date from the visitation of the epidemic cholera in 1832–4. * * * That the cholera atmosphere may have had this effect must be admitted. It was very perceptible in the vicinity of Cincinnati for two or three years after that visitation; and the history of epidemics, in all countries and ages of the world, coincides with this alleged effect.

The following is a part of the vivid sketch that our author gives of the symptomatology of this class of intermittents. Of their varying and anomalous symptoms, he says:—

Compared in the diversity of their phenomena with the most malignant cases of scarlatina, typhus gravior, or epidemic cholera, they are

decidedly more difficult to portray, in a methodical and faithful manner, than either, moreover, their malignity sometimes shows itself by the slightest possible anomaly. Thus, a partial numbness, or a coldness of the great toes, instead of a regular chill, or a disposition to sleep at the access of the paroxysm, may be all that suggests any thing more than the most harmless intermittent. * * * By far the greater number of cases begin as regular intermittents, with a cold fit too slight to excite more than a moderate shivering, such, for example, as ushers in a simple remittent. The cold stage is not followed, however, by the well-developed and prolonged hot stage of that variety of fever; but by one so inconsiderable, that the patient, in many cases, is soon upon his feet, and often resumes his business till the next day, or the day after that. If nothing should have been done, the second paroxysm will be more severe; his coldness will be greater and more prolonged, yet not productive of a shake. * * * The third, and even the fourth paroxysm may thus pass away; * * * but this is rare; and in the majority of cases, the third fit not only discloses the danger of the patient, but often proves fatal, or he struggles through it, to die in the next.

Concerning the best mode of treatment in this class of intermittents, Dr. Drake has extensively advised with those of his professional brethren in the South and West, who have become familiar with this malignant form of the fever, and it appears that with great uniformity, it is conceded that the timely administration of quinine in *large doses*, affords the only hope of the patient; that "hydragogue cathartics are regarded as inevitably fatal;" emetics have not proved salutary; blood-letting, and, in short, all modes of depletion are hazardous, and prove fatal unless they should, fortunately, be followed by reaction.

Remittents:—In the simple and inflammatory forms of remittent fever, Dr. Drake makes the following suggestions concerning treatment, etc.:—

The fundamental principles are, that Autumnal Fever is the product of a specific cause, and, therefore, consists in a morbid action of a peculiar kind, requiring a specific remedy; that we possess such an antidote for the intermittent variety of the fever, and that we have only to abate all the causes and points of difference between the two varieties, to render the sulphate of quinine as efficacious in one as the other.

But what *are* the pathological differences between them? The answer must be, that we do not find them in the functional disturbances and morbid secretions of the liver and *primæ viæ*, which are generally as great in the intermittent as the remittent type. They seem to me to consist in a higher febrile excitement of the whole system; a greater tendency to visceral hyperæmias and inflammations; a much longer hot stage; and the consequent want of a complete intermission. These conditions being obviated, the antidote will take effect, as in an ordinary intermittent. The old treatment, it is true, proposed all this; but the change in the condition of the system was

to be accomplished gradually; and as each exacerbation of the Fever added to the lesions of innervation, or removed the inflammation of some organ, it oftened happened that a suitable condition for the administration of the antidote was never reached.

The new modification of treatment consists in transforming a remittent into an intermittent in a single day, and by a single agent. As stimulation will raise an intermittent into a remittent, so an opposite treatment may suddenly change the latter into the former; or, at least, so reduce the excitement of the heart and arteries, that the pathological state of the patient is an equivalent for the apyrexia of an intermittent.

Blood-letting is the means for accomplishing this end. To be successful, however, it must be employed in the first, second, or third paroxysm, that is, before inflammation in any organ has become established. The quantity taken must be such as will bring the patient to the verge of syncope. Pallor and perspiration of the face, yawning, nausea, and a feeble, empty, and rapid pulse, must declare that the excessive excitement of the system is, for the time being, effectually brought down. If these effects be not produced, the preparation of the system for the antiperiodic is not accomplished.

Dr. Drake's investigations, in reference to the treatment of remittents in the Southern States, show by reliable testimony that, in many localities, the quinine may be safely administered at the first onset of the fever, without any preparatory evacuating treatment; and he states that in a southern climate the lancet must be very cautiously used. As regards the use of *calomel*, our author believes that its merits have been overestimated: he would resort to it only as an adjuvant of secondary importance, even in cases of malignant remittents.

Dr. Drake devotes 169 pages to the consideration of Autumnal Fever, and this section of his treatise constitutes by far the most complete and practical exposition of the subject yet furnished to the profession. He remarks, that it is the *great* cause of mortality, or infirmity of constitution, especially in the southern portions of the Valley; it is therefore entitled to the extended and patient examination he has given it.

Yellow Fever.—To the consideration of this terrible scourge of our southern cities, Dr. Drake devotes 170 pages of his treatise; entering upon a very full investigation of the various questions relating to its etiology, pathology, and therapeutical treatment. The question of *contagion* receives, as it merits, a severely critical examination, the facts relating thereto in each epidemic being carefully analyzed, and the history of opinions on the subject faithfully scrutinized, and compared with established facts; though he scrupulously guards against any bias of opinion, and avoids any positive denial of the doctrine of contagion. Dr. Drake's investigations manifestly lead to the conclusion

that Yellow Fever does not conform to the law of contagious fever, and that there is nothing in its history, so far as its occurrence in this country is concerned, which would require us to infer that it is ever contagious.

In reference to the symptomatology, morbid anatomy, and treatment of Yellow fever, the leading points are concisely stated, and his chapters on these subjects carefully adapted to practical purposes.

Typhous Fever.—Under this generic term Dr. Drake includes the several forms, or grades, of common continued fever; and, in the two hundred pages devoted to their consideration, the author has given us a very complete and highly practical treatise on this most important class of fevers.

In the section relating to a *general typhous epidemic constitution*, is given a succinct history of that constitution as it has prevailed in the United States, beginning with the memorable spotted fever of New England in 1806, '7, and '8; its modification, known as *pneumonia typhoides*, prevailing in 1810, '11, and '12, and following the march of the epidemic westward through subsequent years.

The history of sub-epidemic and sporadic visitations of the typhous fevers is given in three divisions, corresponding with the *southern basin Appalachian Mountain region; the southern basin; and the eastern, or St. Lawrence basin;* which are arranged in twenty-four sections, relating to the particular communities or regions in which such history has been specially studied.

The Irish immigrant, or ship, fever occupies a separate and lengthy chapter, in which the author particularly relates the results of his personal investigations in Canada.

Some of Dr. Drake's etiological generalizations are exceedingly interesting. We have only space for the following:—

Influence of the annual range of temperature.—We must now inquire into the influence of winter and summer extremes of temperature on the prevalence of continued fever. For this purpose we may use the following data, drawn from places which have nearly the same annual mean heat.

PLACES.	MEAN TEMP. OF YEAR.	OF WINTER.	OF SUMMER.	RANGE.
Cincinnati, Steubenville, and Lewiston	50°	31°	70°	39°
Paris, Vienna, and Berlin	50°	34°	65°	31°
Dublin, London, and Edinburgh	49°	39°	60°	21°

From this table it appears that the difference between the mean heat of winter and summer, in this valley, is equal to four-fifths of the mean temperature of the year; on the continent of Europe, to three-fifths; on the Islands of Great Britain and Ireland, to two-fifths; or, to vary the expression, the range from winter to summer is about twice as great in this valley as on those islands, while the continent of Europe holds a middle place between the two.

Now what is the comparative prevalence of the continued fevers in these different regions? The answer is not difficult. It is inversely to the range of winter and summer heat, being least in the Interior Valley, greater on the Islands, and intermediate on the continent of Europe. It is interesting to compare this climatic law of continued fever with those of yellow fever and autumnal fever. A mean summer temperature of 80°, or above, with a yearly temperature of 65°, or upwards, is necessary to the prevalence of yellow fever in our valley, and an average summer heat of 60°, or more, with a yearly heat of 40°, or upwards, is necessary to the production of autumnal fever. Thus, as a general law, yellow and autumnal fevers are in direct proportion to the heat of summer, while the continued fevers are in the reverse proportion. Yet there is one point of view under which they conform to the same law. They all prevail most where the range between winter and summer is least. Thus, at St. Louis, the range is 42°, and yellow fever is unknown. At Natchez, it is 29°, and the fever prevails occasionally; at Havana only 10°, and there the yellow fever is as constantly present as typhus fever in Dublin. In the latitude represented by Cincinnati, the range is 40°, and the prevalence of autumnal fever is moderate. In that represented by Bâton Rouge, the range is 28°, and the fever prevails every year as certainly as continued fever prevails in Glasgow or Edinburgh.

The various questions relating to the local, or spontaneous origin of typhous fevers, their propagation by contagion, their classification, morbid anatomy, pathology, and treatment, are ably discussed and philosophically investigated; and, particularly in reference to the subject of treatment, Dr. Drake has brought forward some ingenious and original suggestions which will prove highly valuable to the practitioner. We are especially pleased with his remarks concerning the *mode* and the *time* for resorting to the use of water, and the indications to be met in its application.

Concerning the relation of any special anatomical lesion to the general pathology, or distinctive classification of varieties of typhous fever, he concludes his argument in the following statement:—

It is well known that lesions in continued fever are not limited to the cavities which have been named, (the brain and abdomen), but are found likewise in the chest; and these are so frequent that, if we constitute as species the other forms, we might consistently establish a third—the thoracic or pulmonary. We should then have the cerebral or typhus mitior of the British writers—the abdominal typhus or

typhoid affection of the French and German—and the pneumonia typhoides of the American. These designations are founded in nature and may be retained, but they should be understood to express only varieties and modifications of a single species. In certain countries or classes of people one variety may prevail for a time, in others, another—then, again, all may be present in the same town or family. Even the whole of these lesions are not unfrequently found in a single *post mortem* examination. The truth is, that we must admit a constitutional typhous diathesis, with varying localizations; and not specifically distinct, primary local inflammations, generating fever, as in the phlegmasiæ. If this be admitted, it follows as a corollary, that the labors of the Parisian school have simply made us acquainted with a form of typhous not peculiar to their city, nor even epidemic there, but sporadically present among them for some time past: not absolutely, but relatively to other forms, more prevalent in that city than elsewhere.

Eruptive Fevers.—These important but familiar maladies receive, at Dr. Drake's hands, the same thorough and practical examination as the more ostentatious members of the great family whose history he gives; and he has succeeded in presenting the leading points in their pathology and treatment in a striking and clear light His account of Scarlatina is especially interesting. As concerns the treatment of this malady, he bears most positive testimony in favor of the free use of cold water by affusion.

The history which our author gives of Epidemic Erysipelas, as it has prevailed in our country, constitutes the most complete epitome on the subject that we have met with. The terrific fatality which epidemics of this disease have so often assumed renders its history worthy of all the attention that has been bestowed upon it. Probably no epidemic malady has ever more completely baffled the skill of medical men in the localities where Erysipelas has prevailed;—in some, certainly, within the writer's knowledge, no disease has ever given occasion to so great opprobrium to the profession, because of the varying, and too often, unsuccessful treatment adopted by medical men at the outbreak of such epidemics. But, happily, in the hands of those physicians who have clearly apprehended the leading facts and principles relating to the pathology of the malady, and its therapeutical indications, epidemic erysipelas has not been found particularly incorrigible in treatment. Dr. Drake's conclusions concerning the proper mode of treatment, are entitled to great confidence, gleaned, as were his data, from many and various localities where epidemics of this disease had prevailed.

We need a fuller history of these epidemics, and it is desirable that those physicians who have had experience in treating such erysipelatous fevers should more fully and carefully communicate the results

of their observations. The most valuable communications of this kind which we have met with, were made through this Journal, by H. N. Bennett, M. D., of Bridgeport, Ct. (*N. Y. Jour. Med.*, May, 1848, and July, 1853), in connection with the last of which may be found a bibliography of similar contributions.

In the last part of Dr. Drake's work, which is devoted to the consideration of Phlogistic Fevers, or the Phlegmasiæ, is presented a very complete *resumé* of all the leading facts relating to the etiology, pathology and therapeutic management of these most important inflammatory affections; together with an account of all the points of special interest connected with the endemic, epidemic, or particular local histories of any of the phlegmasiæ. Our author's method of arrangement and mode of discussion of these subjects are admirably adapted to the wants of those who would consult this treatise for immediately practical purposes; while he at the same time starts various physiological, pathological, and statistical inquiries, which his readers may profitably pursue. Of the diseases that receive a particularly full consideration, may be mentioned epidemic Cerebro-Spinal Meningitis, Acute Rheumatism, Pulmonary Inflammations, —including the various types and complications of pneumonia; and Phthisis Pulmonalis. Under the latter head, Dr. Drake has an interesting chapter on the climatic, etiologieal and prophylactic relations of this ruthless destroyer.

His account of Cerebro-Spinal Meningitis, as witnessed in its endemic or epidemic prevalence in the South and West, is highly satisfactory, and will be read with deep interest by those who have been called to treat this anomalous zymotic affection, which has its special seat in organs and tissues that are usually quite secure from any primary disease from meteoric agencies.

We must here close our examination of this greatest of American Medical works,—a work that, in the main, is as far above criticism as its lamented author exceeded all others in familiarity with the data upon which the treatise is based.

The task which Dr. Drake assigned to himself was as stupendous in the undertaking as it was glorious in its prospective results; and the entire profession, yea, the American nation, may properly express their gratitude that he was permitted so nearly to perfect his work. Indeed, the treatise, as now presented, may be justly considered as *complete*, so successfully have its worthy editors accomplished their duty of arranging and preparing for the press the manuscripts upon which Death found the learned author busily engaged. E. H.

ART. IX.—*The Transactions of the American Medical Association.* Instituted 1847. Vol. VII. New York: CHARLES B. NORTON, 1854. 8vo., pp. 668.

THE early appearance of this volume is peculiarly gratifying; first, because we are a "fast people," and desire to see the early fruits of our labors; and, second, because of the circumstances under which the volume appears. Our readers are aware that heretofore the *Transactions* have issued from the Philadelphia press, and that they seldom appeared much within a year after the meeting of the Association. At the late meeting held in St. Louis, the Committee on Nominations selected a majority of the members of the publishing committee residing in New York. Motions to amend their report were strenuously urged, but finally lost, and the report of the committee adopted, which gave to New York the credit of issuing the *Transactions* of the present year.

To the manner in which the Publishing Committee have discharged their trust, we believe no exceptions can be taken. The volume has made its appearance in good season, and with a dispatch highly creditable to the efficiency of the committee. The typography is better than any previous volume, and its general appearance contrasts most favorably with the Philadelphia editions.

Of the contents of the volume we shall proceed briefly to speak. As a whole, it contains less matter of general interest than any of its predecessors. There are no voluntary communications, and a less number of reports on practical subjects than previously. Still, it is by no means a volume devoid of interest, and as one of a series of annual publications, holds an important position in the Series.

Following the Proceedings of the Seventh Annual Meeting of the Association, which have already been published in this Journal,* we have the:—

Report of the Committee on Medical Education.—This report was prepared by the Chairman of the Committee, Prof. Cabell, of the University of Virginia, who, it will be remembered, has stood prominent among the advocates of radical reform in our present system of medical education. The report is marked by much clearness of argument, and would have produced a profound impression upon the great sentiment of the Association, had it been read before that body in its assembled capacity. The following resolutions accompanied the report, and contain a summary of the principles embodied in it.

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* See *New York Jour. of Med.*, vol. xiii., N. S., p. 137.

1. *Resolved*, That the views and recommendations heretofore expressed by this Association, respecting the importance of establishing a uniform standard of preliminary education, of extending the term of lectures, and especially of greatly elevating the standard of professional attainments requisite to graduation, be hereby reaffirmed.

2. *Resolved*, That this Association approves and recommends the practice of daily examinations by each professor, as essential for securing "that active, practical discipline" of the mind, which is one of the most important ends of collegiate instruction; and believes, not only that such a system might be easily put into operation, under an appropriate term of lectures, but that the whole ground-work of elementary medical instruction might be most advantageously assigned to the schools which may adopt that system, as a substitute for the very faulty one of private office instruction now in common use.

3. *Resolved*, That this Association cordially approves of the establishment of "private schools," duly organized for giving that species of instruction, which consists "in demonstrations" and other practical exercises, on the part of the student instead of the instructor, but still under his direction and superintendence, embracing the whole circle of clinical observation and practice, the use of the microscope, chemical manipulations, and the performance of surgical operations on the dead body; and would earnestly recommend such institutions to the patronage of those graduates who did not enjoy similar advantages during the period of their collegiate pupilage.

4. *Resolved*, That those medical colleges whose curriculum does not now include full courses of lectures on physiology and medical jurisprudence, be earnestly invited to make immediate provision for supplying the deficiency, and to require the professor of physiology to make an exposition of the outlines of comparative anatomy, to such extent, at least, as may be necessary to enable the student to appreciate the force of the evidence upon which the modern doctrines of physiology mainly rest.

5. *Resolved*, That to insure the efficient and beneficial operation of the proposed measures of reform, the Association considers it essential that some uniform system of examining candidates for admission into the ranks of the medical profession, *in addition to the collegiate examination for degrees*, should be adopted in all the States of the Union.

6. *Resolved*, That the Association regards as auspicious omens of future progress, the already improved character of our medical literature, and the evidence of an increasing desire, on the part of a respectable number of students, for a higher grade of medical education, as exhibited in the patronage extended to extra collegiate organizations for practical teaching; and that in view of such encouraging signs, it cherishes an abiding conviction that more thorough and general reforms will be ultimately, though gradually, accomplished.

Report of the Committee on the Epidemics of Kentucky, and Tennessee. By W. L. Sutton, M. D., of Georgetown, Ky.

On Erysipelas. By R. S. Holmes, M. D., of St. Louis, Mo.

On the Medical and Toxicological Properties of the Cryptogamic Plants of the United States. By F. P. Porcher, M. D., of Charleston, S. C.

Report of the Epidemics of Ohio, Indiana and Michigan, for the years 1852 *and* 1853. By George Mendenhall, M. D.

Report on the Epidemics of Louisiana, Mississippi, Arkansaw, and Texas, in the year 1853. By E. D. Fenner, M. D., of New Orleans, La.

These papers are all characterized by much zeal and labor, on the part of those who were engaged in their preparation, and, while they

will in a practical point of view interest the present reader, will prove of great value to future members of our profession. There is, however, one feature in the Reports on Epidemics, upon which we are constrained to make a few remarks.

A general defect exists in published meteorological records, as hitherto made for even the most specific purpose, in their want of comparable character among themselves. Those published in these reports have one advantage, however, in giving comparison of two years at each locality. If they were such that the temperature and humidity of New Orleans, Cincinnati, and Detroit could be compared with precision, and by observations similarly made, it is obvious that whatever light a definite knowledge of these conditions may throw on the epidemics of any year, could be brought at once to bear on the subject. The three gentlemen whose records are given at these cities, are among the most able and accurate of scientific observers, and the hope of future use of their labors in such precise comparison, induces us to make some suggestions as to the form of record and of publication.

Temperature, amount of rain, and humidity, are the conditions affecting the general sanitary state, and epidemics particularly, so far as climate is known to affect them. The mean results of a month's observation, as given in the tables at these cities, are also hardly sufficient for the purpose of such an investigation. An important extreme may be lost in the contrast with one of an opposite character in the course of the month, and its significance in relation to some feature of an epidemic may wholly fail to appear. It would require little more space to give the temperature of the dry and the wet thermometer at two hours of the day, as at sunrise, or 7 A.M. and 2 P.M., and the amount of rain for each day of the summer months; leaving the winter months to come in in the usual summary. The barometric and wind and weather observations have no value in this connection, though their mean results are sufficiently important, as scientific data, to repay their publication anywhere.*

* The observation of the *temperature of evaporation* is so essential and indispensable to a meteorological record for purposes of sanitary investigations, that it may be well to allude to the following method published in a circular of the Smithsonian Institution, showing with what facility it may be taken:—A thermometer bulb covered with muslin, kept wet by a conducting thread of wicking from a cup of water, is all that is necessary—all to be placed in a free shaded exposure as of the dry thermometer. No loss of time then occurs in its observation, and it is only necessary to renew the muslin and thread when encrusted with dust, and to keep water in the supply vessel. The instrument, once arranged, adds no labor of consequence to the common thermometric record.

The observations given in these reports, fail most in regard to amount of rain, and hygrometric observation. Those of Mr. Gronewig, of Germantown, Ohio, are obviously incorrect, as regards quantity of rain, as both the years 1851 and 1852 had more than the usual amount in Ohio, and the West generally. This quantity exceeded fifty inches in vertical depth of water fallen in each year for Southern Ohio. His gauge was evidently defective. The valuable hygrometric observations made here need only the use of English measures, and the actual record of the readings of the wet thermometer to make them extremely serviceable. At Cincinnati, Dr. Ray's observations unfortunately fail to embrace this primarily important condition of humidity, as do those of Mr. Long, at Georgetown, Ky., and Rev. Dr. Duffield, at Detroit. If inconvenient to these gentlemen to observe this instrument, there are others in various parts of this epidemic district who do so observe, and who would doubtless gladly furnish their results for the use of these reports.

The same, in regard to facility of procuring observations, may now be said of every portion of the United States, indeed, and it is only necessary for the authorities charged with the preparation of reviews of epidemics, and epidemic influences, to put themselves in connection with such meteorological observers, to obtain all the data necessary for a comparison, almost, or quite universal over the country in every year.

The deduction of humidity, in a definite per centage of saturation, from the observation of the wet bulb thermometer, is a somewhat difficult process in the absence of any English tables for the purpose. But the readings of the two instruments, the wet and dry bulbs, exhibit in their differences a palpable and obvious result in regard to humidity, which may be used almost as well as the final deduced values.

The illustration of these climatological conditions is very well made by Mr. Gronewig, in his communication in the report for Ohio. The use of the common or English measures should have been adhered to, however; and a connected or accompanying illustration of the statistics of epidemics, after the model of those of Dr. Barton of New Orleans, would at least greatly facilitate the inquiry into their mutual relations.

In the illustration of the amount of rain at Germantown, Ohio, the error of the tables is in part corrected; the amount being brought up to thirty inches or more for each year. This is still much too small.

To illustrate the importance of connecting the humidity with other conditions, and of placing all that is pertinent to the subject together

in illustration, the curves of temperature and humidity for the epidemic summer of 1853 may be cited. As drawn by Mr. Gronewig, the temperature, of June particularly, is very high, and its per centage of humidity very low. This was true for every part of the Upper Mississippi valley, as well as for Ohio. By Dr. Barton's tables the reverse condition in regard to humidity is seen to have existed at New Orleans, without, however, any important extreme of temperature. The relative severity of epidemics at New Orleans and at Cincinnati during that summer may have a solution here. It is understood that Dr. Barton has in press a report of especial examinations of the Yellow Fever Epidemic, which may throw light on the point.

The number of able physicians* and others, now giving attention to precise climatological records, especially in the Mississippi Valley, is such that concert of action alone is necessary to give to these epidemic reports all the light derivable from that source. By giving the statistics such definite form as applies distinctively to this subject, they may be extended in the form of detail, previously alluded to, for such months as are shown to be important at the time in any district, without encumbering the tables with unnecessary matter.

From an extended inquiry, we learn that the names given below

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* As the subject is important, and the labor already given in this direction so considerable, it may not be improper to give the names of a few known to be aiding the general science of climatology, and this sanitary branch particularly, by valuable observations. The reports here noticed are all in the Mississippi Valley, and, therefore, only such as are resident there need now be named:

Drs. S. K. Jennings, Austin, Texas; E. H. Barton, New Orleans; John Swain, Ballardsville, Oldham Co., Ky.; Geo. Engelmann, St. Louis; John James, Alton, Ills.; Asa How, Dubuque, Iowa; E. C. Bidwell, Quasquita, Buchanan Co., Iowa; C. L. Anderson, St. Anthony's Falls, Minnesota; J. L. Pickard, Platteville, Grant Co., Wis.; M. K. Taylor, Brooklyn, Jackson Co., Mich.; S. B. Mead, Augusta, Ills.; Ray, Cincinnati; S. P. Hildreth, Marietta, Ohio; J. P. Kirtland, Cleveland, Ohio; Geo. Swesay, Gallipolis, Ohio; Hempstead, Portsmouth, Ohio; S. Patrick, Kanawha C. H., Kanawha Co., Va.; W. A. McNellay, Fayetteville, Tennessee; J. O. Harris, Ottawa, La Salle Co., Ills.; Patton, Lewisburg, Virginia; F. Ryhiner, Highland, Madison Co., Ills.; Prof. J. B. Lindsley, M. D., Nashville, Tennessee; Prof. A. P. Stewart, Lebanon, Tenn.; W. M. Stewart, Esq., Glenwood, near Clarksville, Tenn.; Rev. J. Miller, M. D., Millersburgh, Kentucky; Lawrence Young, Esq., Springdale, near Louisville, Ky.; J. E. Younglove, Esq., Bowling Green, Ky.; Jno. Chappellsmith, Esq., New Harmony, Indiana, (successor to Dr. D. D. Owen); Prof. J. L. Andrews, Marietta, Ohio; Prof. S. N. Sanford, Granville, Ohio; Rev. J. McD. Matthews, Hillsborough, Ohio; J. A. Lapham, Esq., Milwaukie, Wis.; Profs. Fairchild, Dascomb, and others, Oberlin, Ohio; Prof. A. W. Winchell, M. D., Ann Arbor, Michigan, etc., etc.

are part only of the members of the medical profession and others now engaged in valuable and precise observation of this sort in that part of the United States. A number of professors and scientific gentlemen might be named in the same districts who would, on solicitation, add the results of their labors, as in the case of Mr. Gronewig, Dr. Duffield, and others, in the present reports. The field is an inviting and attractive one, of more general interest also than that belonging to medical practice merely, and as such scientific gentlemen would no doubt gladly give their observations into the hands of the medical profession, whenever and wherever they will take up this important inquiry and enter upon discussion and deduction.*

Prize Essay: On a New Method of Treating Ununited Fractures and Certain Deformities.—The successful essayist this year proved to be DAVID BRAINARD, M. D., Prof. of Surg. in Rush Medical College; Surgeon of the Illinois General Hospital, at Chicago; Corresponding Member of the Société de Chirurgie of Paris, etc., etc.

Before proceeding to an analysis of this Essay, we deem it necessary to advert to one circumstance connected with its history, which, though it does not detract from the merit of the investigations embodied within it, we can but regard as reflecting discredit upon the Association that bestowed upon it the annual prize. We have before us a pamphlet bearing the following title:—*Mémoire sur le Traitement des Fractures non Réunies et des Difformités des Os, par* DAVID BRAINARD, M. D., Professeur de Chirurgie au College Médical de l'Illinois, à Chicago, etc., Paris, 1854, and dedicated to M. LE BARON LARREY. This pamphlet, of which our Prize Essay is but a translation, was originally presented to the Society of Surgery, of Paris, by the author, and on the strength of which, we believe, he was elected a Corresponding Member of the Society. In the early part of the year 1854, it was published in Paris, under the imprint of J. B.

It may be worth while to state, that the mode of determining mean results in temperature, alluded to in the report for Kentucky and Tennessee as having been employed by Mr. Long, is preferable to that of Dr. Ray, which last is understood to be the mode adopted some years since by the Regents of the New York University. The defect of this mode is, that it introduces an observation of the morning following. The formula is, $X = \frac{a + 2b. + 2c. + a'}{6}$; in which a, b, and c are the hours 7, 2, and 9 respectively, and a' is 7 o'clock of the next morning; and similarly for any three hours near these which may be chosen for observation. The mean of two extreme hours is shown by recent observation to represent more truly the precise mean of all the hours of any day, and this is the value desired in daily statistics.

Bailliére, in its present form, and, as it would appear, previously to its being submitted to the American Medical Association. The precedent established by this procedure, if followed out in future, resolves the Prize Committee of the Association into a committee of judges on recent publications—thus perverting the important object contemplated in the appointment of the committee.

This double triumph of his Essay must be peculiarly gratifying to the author, as evincing a wide appreciation of his talents and investigations. Yet we can but feel that, in submitting it, under the injunction of secrecy, after its foreign circulation, to the *American Medical Association* for its annual prize, he has not had sufficient regard for its *national* character and reputation. Representing in its Annual Transactions the progress of American Medicine, it but illy subserves this high purpose, when its prizes are awarded to essays already deferentially submitted to the criticisms of foreign societies, and which take the honor, if honor there be, in first publishing them to the world.

The object of this Essay is thus stated: 1st. To establish, by experiment, the principles upon which the treatment of ununited fractures should be conducted; and to show that these principles are applicable to the human subject. 2d. To propose a new method of treatment of certain deformities which result from true anchylosis,—union of fractures in an angular position, rachitic curvature, etc. It is divided into three parts:—1. Experimental researches on the effects of foreign bodies, when allowed to remain in contact with the osseous tissue, and on certain wounds of the bones. 2. Treatment of ununited fractures by subcutaneous perforation of bone. Cases treated in this manner. 3. Treatment of deformities of the bones by subcutaneous perforation. Experiments on this subject.

The author very properly disclaims all pretension to have been the first to devote attention to treatment of a similar kind. He, however, claims by implication to have first demonstrated the principles upon which such treatment is based, laid down the rules of its application, and contrived an instrument by which it could be carried into effect. These several points will appear in the brief analysis of his paper which we shall give.

The first fact to determine is, the effect of foreign bodies when allowed to remain in contact with bone. Foreign bodies are divided into metallic, and non-metallic, and the following are the conclusions at which the author arrives, after experimenting with various substances belonging to both classes:—

1. Foreign bodies, of every kind, placed, or allowed to remain in

contact with any part of a bone, in a manner to keep up suppuration, produce absorption of it, and have no tendency whatever to give rise to the production of callus. The use of setons, pegs, wires, and foreign bodies of every description, as a means of promoting the formation of callus, is a practice not founded on correct principles, and is often dangerous. The seton is more properly employed for the purpose of dividing a bone, or keeping up a false articulation, than for uniting it.

2. Sequestra and foreign bodies, imbedded in bone, may be brought to the surface when, by perforation or otherwise, instruments or ligatures can be so attached to them as to draw them permanently, with but a moderate degree of force, in that direction. As soon as they press against the living bone, they cause its absorption in the direction toward which they are drawn.

3. That power of absorption of bony tissue attributed to the periosteum and the medullary membrane, exists also in the substance of the bone itself, as is proved by the insertion of pegs into perforations of bone, absorption taking place around them, not only at the surfaces, but at all the intervening points.

The next subject of inquiry is the *effects of foreign bodies on the formation of callus.* The examples cited to illustrate this point, are cases of fracture of the bone, and the detachment of fragments which lie between the extremities, and have prevented union; and the conclusion arrived at in connection with the preceding facts is, that "foreign bodies produce absorption of callus when placed in contact with it." The action of medicinal solutions, when placed in contact with bones, was found to be similar to that of foreign bodies.

The circumstances in which wounds of bone most readily give rise to callus, or unite without it, are considered under the following heads: 1. Simple wounds of bone without fracture. 2. Simple fracture. 3. Compound wounds, and compound fractures. Nothing new is offered in the discussion which follows; in the first two conditions, bone heals by the first intention, in the last by granulation and suppuration.

Having thus established and illustrated the principles of his investigation, the author proceeds to apply them to the treatment of ununited fractures. The following are his views of the indications of treatment in this class of affections:

The object to be desired in these cases is, as it appears to me, the production, by subcutaneous wound, of fresh osseous surfaces opposite to and in contact with each other, with such division of the soft parts as will excite a moderate inflammation, without suppuration, around the false joint; and a wound of the bones, of considerable depth and size, capable of producing that vascularity and softening always noticed in fractured extremities of bones, before union takes place. These fresh surfaces, in some cases, require to be numerous, and equal in the aggregate to those produced by resection; and the

operation by which they are made should be repeated from time to time. Hence, it must be an operation which does not expose to violent inflammation, or give great pain. It should, moreover, be one capable of being employed in connection with other methods, recognized as useful or necessary to preserve immobility.

To accomplish these objects, Prof. Brainard has invented an instrument, for perforating the fractured extremities subcutaneously, which is awl-shaped, and capable of penetrating the hardest bone or ivory with facility. The method of operating is thus described:—

In case of an oblique fracture, or one with overlapping, the skin is perforated with the instrument, at such a point as to enable it to be carried through the ends of the fragments, to wound their surfaces and transfix whatever tissue may be placed between them. After having transfixed them in one direction, it is withdrawn from the bone, but not from the skin, its direction changed, and another perforation made; and this operation is repeated as often as may be desired. It is better to commence, in most cases, with not more than two or three perforations, in order that the effect produced shall not be too severe. On withdrawing the instrument, collodion is to be placed upon the point of puncture. * * * In case of fracture where the extremities are differently situated, it must be applied in a different manner, and in such a way as to effect the object proposed, viz.: profound as well as superficial wounds of the extremity of the fragments; and a division of the tissue which is seated between them. * * * Each of the different parts of the operation which we have described is essential to its success. The division of the tissue situated between the fragments, would, of itself, have but little effect; combined with scratching their extremities, its effect is not great, as we have demonstrated by experiment; but when accompanied by wounds of the bone, there is a very permanent and efficient action produced, which puts the extremities in a condition to join the soft parts, in effecting union. This can be rendered greater, by increasing the number of punctures, or using an instrument of large size. The operation is to be followed by the application of suitable splints, or apparatus for the purpose of securing immobility. It should be repeated from time to time, and carried to a greater or less extent, as the effects produced may indicate.

Seven cases, in which this practice was successfully resorted to, are appended; three only occurred in the practice of the author, two are reported by Prof. Mussey, of Cincinnati, and two by Dr. Jewett of this State.

The concluding chapter of this essay is on the *Application of Perforation of the Bones to the Cure of Certain Deformities, by means of Interstitial Fracture or Bending.* The facts which his experiments establish are: 1. Perforation of bone may be employed to weaken it in such a manner as to cause it to fracture readily, at the point desired, with but a moderate degree of force, and but little pain. 2. It may be

employed in the same manner, so that the bone may be bent in part, and only fracture in some of its fibres, without division of the periosteum. The cases to which this treatment is adapted are: anchylosis, angularity of the fragments in fracture, deformities from rachitis, etc. The method of applying the treatment depends upon the object to be attained. If it is to weaken the bone to facilitate fracture, several perforations may be made in one direction, and, withdrawing the instrument, they may be repeated in another, five perforations being sufficient to divide about two-thirds of the bone (the instrument being of suitable size), and the inflammation excited will soften the other third in a few days, and render the fracture easy. If it is desired to effect a partial fracture, the perforation should be mostly on one side; if to bend the bone merely, the perforation should be from three different points, and the gradual application of force applied.

From this brief analysis, it will be perceived that the chief merit of the Essay consists in illustrating by experiments certain facts in surgical pathology and practice, hitherto known. For it has long been understood that the effect of foreign bodies, when left in contact with bone, was destructive of its tissue at the point of contact. Proceeding upon this knowledge, bone has been purposely divided by a wire placed around it, and tightened at proper intervals; the principle of its action being simply that of exciting suppurative inflammation. It is on this principle that foreign bodies have been removed from bones, sequestra from the living bone around them, etc.

In discussing the various kinds of treatment heretofore adopted in ununited fractures, the author's accuracy and logic do not impress us very favorably. He supposes the object of Dr. Physick, in using the seton, was, "to produce between the fragments that semi-cartilaginous tissue often noticed as forming the walls of old fistulæ," and does not perceive "why the recommendation of the seton for this purpose, for a long time, should be more an absurdity than its use for a few days, for the purpose of producing an acute inflammation of the soft parts." Dr. Physick, however, supposed that, "by exciting inflammation and suppuration, granulations should rise on the ends of the bone, which, uniting and afterwards ossifying, would form the bony union that was wanting." It is plain, therefore, that the length of time which the seton should remain between the fragments cannot be specified. Presuming that the success of the seton in certain cases might be urged by some, as invalidating the principles which he has endeavored to establish, Prof. Brainard anticipates the objection with the following reply: "The success of the seton, as well as of all similar methods,

does not result from any tendency to favor the formation of callus, but from the induration of the soft parts produced by it." And yet, on a preceding page, he notices the following fact in regard to Dr. Physick's case: "At the death of the patient, several years afterwards, a callus was found, divided into two parts by a perforation in the middle, which marked the point where the seton had been placed." It is perfectly clear that the callus was formed in this case in consequence of the *presence* of the seton.

In regard to the method of treatment proposed by Prof. Brainard, we recollect to have seen a patient successfully treated in a similar manner by Dr. Detmold, of this city, in 1850. It was supposed by this surgeon, if we rightly recollect the remarks which he made on the occasion, that the "chips" made by the perforator would become the centres of ossification, and that in this manner osseous pins might be formed, retaining the bones in apposition until consolidation was complete. The cases reported by Professor Brainard are too few to judge correctly of the importance of the operation. It commends itself from its apparent simplicity, freedom from pain, (which, indeed, is no great objection in our day), and, thus far, its successful issue, in the cases to which it has been applied.

The concluding paper contains biographical sketches of the sufferers by the Norwalk tragedy. It was drawn up by the Chairman of the Committee, Dr. Joseph M. Smith, and is a most appropriate tribute to the memory of those unfortunate men.

BIBLIOGRAPHICAL NOTICES.

Art. X.—*The Microscopic Anatomy of the Human Body in Health and Disease. Illustrated with numerous Drawings in Color.* By Arthur Hill Hassall, M. B., Member of the Royal College of Surgeons of England, etc., etc. With Additions to the Text, and Plates, and an Introduction, containing Instructions in Microscopic Manipulations, by Henry Van Arsdale, M. D. In two volumes. New York: Samuel S. and William Wood, 1854. 8vo., pp. 560 and 169.

Some three years since, we had occasion to notice the appearance of Mr. Hassall's work on Microscopic Anatomy, republished in this country. We now have the pleasure of calling the attention of our readers again to this standard treatise, brought out under the auspices of the Messrs. Wood of this city.

It will be remembered that the American edition was edited by Dr. Van Arsdale, of this city, who prefaced the first volume with a very

instructive and necessary section on the use of the microscope, and on the best methods of preparing and preserving microscopical objects. The student cannot fail to profit much by an attentive perusal of this introduction, both in manipulating with the instrument, and in correctly understanding the principles of this beautiful science. We notice on the second page of Dr. Van Arsdale's introduction, a piece of advice which students would do well to heed. "It is a very common error," says the editor, "to suppose that cheap microscopes will answer as well for low powers as more expensive ones: that, for instance, there is no difference in a one-inch object glass and common eye-piece of an ordinary microscope, and the same focus object-glass and eye-piece of a good instrument: hence, many persons, about commencing the study of microscopic anatomy, and believing that, for the study of injected preparations, a power of one hundred diameters will, in most cases, answer, purchase the cheapest instrument they can obtain with that degree of magnifying power—qualities that are rarely found to exist in any degree in the cheaper microscope."

Not less important to the student is the following: "An error, somewhat similar, committed by beginners, is in supposing that a low-priced microscope (and usually, therefore, a poor one), is sufficiently good to commence with, and that a more perfect instrument, with higher powers, may be purchased when more familiar with its use. This is not only poor economy, but, as already stated, such an instrument gives unsatisfactory, and often false views: it being much better economy were this regarded, and infinitely more satisfactory, to purchase a good instrument, with low powers, at a fair price, to which the higher powers may be added as means allow. Those who can afford a good microscope, and yet purchase a poor one, commence their studies under great disadvantages."

The additions of the editor, throughout the entire volume, are of great value, and greatly facilitate the progress of the learner. At the conclusion of each subject, he gives the best method of preparing the tissue, or fluid, under consideration, for examination, and also for preservation. With these plain and explicit instructions before him, the observer is prepared to master every difficulty which may present in the manipulation of the instrument, and in the preparation of the specimen.

The second volume consists entirely of plates, of large size, beautifully and accurately colored. The American edition contains a large number of additional plates, highly artistic in their execution, and supplying important omissions in the English edition.

We regard the appearance of this work, emanating from the present publishers, at a period when medical students are so generally turning their attention to microscopical studies, as a fortunate circumstance.

In conclusion, we would express the conviction, forced upon us after several years' consultation of similar works, while pursuing microscopical studies, that there is none better arranged and illustrated, and none which will give so general satisfaction as that of Mr. Hassall, edited by Dr. Van Arsdale.

ART. XI.—*On the Nature, Signs, and Treatment of Childbed Fevers; in a Series of letters addressed to the Students of his class.* By CHARLES D. MEIGS, M. D., Prof. of Midwifery and the Diseases of Women and Children in Jefferson Medical College, Philadelphia, etc., etc. Philadelphia: Blanchard & Lea, 1854, 8vo. pp. 362.

THIS volume comprises a series of twenty-nine letters, on one of the most difficult, and in some respects interesting points in Obstetric Medicine. For if there is one disease which more than another has demanded, and received, investigation at the hand of the practitioner of our art, it is that commonly recognized under the name of Childbed Fever. That all investigations should prove alike successful is not to be supposed. In the present one we find that the author, a practitioner of more than forty years, has collected the best and most reliable opinions of many writers on this disease, and applying to them the test of clinical experience has produced a volume superior, in many respects, to any which has heretofore come from his pen. As to the style of the letters, we see manifested in them no marked evidence of improvement, compared with that characterizing the author's volume, *On Woman and her Diseases.* It is clearly of the same class of writing—writings which, we may say, are peculiar to the distinguished author, now passed the period of three-score years in life. As the results of a critical inquiry into the literature of the disease, and a large and long experience in practice, this volume will be received by the Profession with distinguished favor, and we feel warranted in commending it to the favorable attention of our readers.

ART. XII.—*A Treatise on Fractures in the Vicinity of Joints, and on certain forms of Accidental and Congenital Dislocations.* By ROBERT W. SMITH, M. D., M. R. I. A., Fellow of the Royal College of Surgeons of Ireland, etc., etc. Dublin: Hodges & Smith; New York: S. S. & W. Wood, 1854, 8vo. pp. 314.

WE regard this as the best work extant, on the subject of Fractures in the Vicinity of Joints. Its discusses intelligibly and practically some of the most troublesome points in Surgical practice—obscure and complicated points in the management of accidents affecting the articulations. We most heartily commend it to the better consideration of the Profession.

ART. XIII.—*Nature in Disease, illustrated in various Discourses and Essays. To which are added Miscellaneous Writings, chiefly on Medical subjects.* By JACOB BIGELOW, M. D., Professor of Materia Medica in Harvard University, etc., etc. Boston: Ticknor & Fields, 1854, 12mo. pp. 391.

THIS volume comprises, as its title indicates, a collection of Miscellaneous Papers, principally on Medical subjects, written or published at

intervals, by Dr. Bigelow, during a long and active professional life. The following is a list of its contents: 1*st*, *On Self-limited Diseases;* 2*d*, *On the Treatment of Diseases;* 3*d*, *Practical Views on Medical Education;* 4*th*, *Report on Homœopathy;* 5*th*, *On the Medical Profession and Quackery;* 6*th*, *On Gout, and its Treatment;* 7*th*, *On the Treatment of Injuries occasioned by Fire and heated Substances;* 8*th*, *On the Burial of the Dead, and the Cemetery at Mt. Auburn;* 9*th*, *Remarks and Experiments on Pneumothorax;* 10*th*, *On the Pharmacopœia of the U. S.;* 11*th*, *On the Mucuna Pruriens, with Remarks on the Irritability of Different Textures;* 12*th*, *On the Poisonous Effects of the American Partridge;* 13*th*, *On Coffee and Tea, and their Medicinal Effects;* 14*th*, *Report on the Action of Cochituate Water on Lead Pipes, etc.;* 15*th*, *On the History and Use of Tobacco;* 16*th*, *On the Early History of Medicine;* 17*th*, *An Address delivered before the American Academy of Arts and Sciences in* 1852.

ART. XIV.—*Human Physiology; designed for Colleges, and the higher Classes in Schools, and for General Reading.* By WORTHINGTON HOOKER, M. D., Prof. of Theory and Practice of Medicine in Yale College, etc. Illustrated by nearly 200 engravings. New York: Farmer, Brace & Co., 1854, 12mo. pp. 389.

A CAREFUL examination of this work has left upon our mind favorable impressions of its value, and adaptation to supply the wants of those for whom it was designed. We therefore commend it to the favorable attention of the public.

ART. XV.—*A Dictionary of Medical Terminology, Dental Surgery, and the Collateral Sciences.* By CHAPIN A. HARRIS, M. D., D. D. S., Professor of the Principles of Dental Surgery in the Baltimore College, etc., etc. Second Edition, carefully revised and enlarged. Philadelphia: Lindsay & Blakiston, 1855, 8vo. pp. 800.

THE first edition of this work was designed principally for the student and practitioner of Dentistry. Subsequent reflection has convinced the author, rightly we think, that the scope of professional education of the Dentist required a more extended view of the subject than was presented in that edition; consequently, in the present, he has added those words and phrases purposely omitted in the first, and also those that have subsequently been added to the literature of the subjects, thus making the work a complete Dictionary of Medicine and Dental Surgery. As there is no work extant so well adapted to supply the wants of the student and practitioner of Dentistry, we feel assured that it will be received by them with distinguished favor.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On the Nature and Causes of Green Vomiting.—Dr. Frazer details (*Dub. Hospl. Gaz.*) several cases of Green Vomiting, and adds the following remarks:—I consider this green matter is composed of the blood in an altered and modified condition, the discharge being altogether of a hæmorrhagic character. Repeated microscopic observation, in those instances in which I have noticed its occurrence for some time past, has confirmed my ideas regarding its nature, and examination shows that the little fragments of which it consists are various-sized clots, containing abundance of blood globules: this alone might decide the inquiry; however, I am desirous of placing it on other grounds, in addition to such as are afforded by the microscope. I may, therefore, bring forward the following arguments which further support the view I have taken. 1st. The form of vomiting alluded to occurs in diseases where there is much congestion, and inflammatory engorgement of the vessels of the stomach or intestines, as in gastritis, and fevers with gastric complications; and after death we find patches of softening in the mucous membrane, or decided marks of excessive vascularity; at least such has been the case in those fatal instances where I have had the opportunity of inspecting the stomach. 2dly. The coincidence of vomiting of ordinary blood, in addition to the green matter, which sometimes occurs, and as was noticed, for example, in the case of the woman with enlarged spleen already alluded to; besides, I have remarked, that in many cases of fever which were attended with this peculiar green discharge, hæmorrhagic purpuric eruptions were frequently seen. 3dly. We have the physical properties of this substance; it forms small green clots in the fluid, in addition to tinging it with its peculiar hue, as we might expect blood to do. 4thly. We must consider that a similar green color occurs in various parts of the body, and under very dissimilar circumstances. This is, perhaps, the most interesting branch of our subject, and one on which medical records afford little information; as instances of this change we have, among other examples: The peculiar green hue of contusions that are of some standing, and the green color of the ecchymoses that occur on the extremities in land scurvy, many cases of which were noticed in the hospitals in the late years of famine.—The color of the great intestine in various cases of fatal

dysentery, and of the mucous tissue of the stomach in inflammatory gastric affections.—The grass-green appearance of the interior of the bladder, and of the kidneys after death, in many acute or sub-acute diseases.—The well-known greenish tinge often seen in moist gangrenous affections.—The color of the body as it begins to decay after death.—The green hue of coagulable lymph, and of purulent exudations in bad constitutions, and many other similar facts in pathology that might be enumerated, which are as yet unexplained.

On Physical Diagnosis of Fevers. By E. A. Parkes, M. B.—There are two diseases not unlike typhoid, to which I wish now to direct your attention, and which may be mistaken, and are mistaken for typhoid—one is *pyæmia*, so called, but it is quite untrue there is any pus in the blood; the other is *acute tuberculosis*. In pyæmia we have its positive indications absent, such as inflamed joints, diseased veins, etc.; we have septic materials in the blood in pyæmia, and a vital change perhaps in that fluid, but you cannot well mistake it for typhoid fever. There is another disease, however, which has been lately quite mistaken for typhoid—this is *acute tuberculosis*, in which, more or less, every organ in the body becomes studded with tubercles, and known in England and the Continent as "miliary tubercles," in the intestines, heart, lungs, and in the female even in the uterus and pelvic viscera. It is a disease common in younger patients. The disease, however, is extremely rapid, in three or four weeks usually coming to an end. It is attended with febrile symptoms, furred dry tongue; the symptoms, in fact, all like as possible of typhoid. It runs parallel, so to speak, with typhoid, but is not typhoid. Acute tuberculosis is often mistaken for typhoid, but the *rose-spots are absent*. In these cases the best observers will make mistakes. These tubercular deposits are miliary; they are uniform over the lung. We have no opportunity of comparing disease in one part of the lung with another; no stethoscopic indications, in fact, but those of bronchitis. Again, in this disease of acute tuberculosis, the head symptoms are always most intense, from deposit, in the shape of acute meningitis; the latter produced by deposit of tubercle. It is, in fact, something quite out of the common way to find bad headache in typhoid; torpor is more common; and according as the disease advances, as a general rule, head symptoms are found to go away. You will find, also, if you study these cases in the wards of the hospital for yourself, that the pupils are dilated in meningitis, and that the special senses of hearing, taste, smell, etc., are all more or less affected. Deafness, for instance, is common; and, as I have just said, you will have most intense headache. Again, in one disease the abdominal symptoms will sieze your attention; in the other, the head or chest symptoms. Diarrhœa is not so frequent in one; while in the other it is almost specific. In acute tuberculosis, you will not find the intestinal glands red and inflamed; in the other affection we are speaking of, it is very characteristic after death. The typhoid stools are liquid, yellow, or brown, containing albumen, and coloring matter of bile; this singular sub-

stance rendered mahogany-color by nitric acid. In hospital I would advise you to familiarize yourselves with all these circumstances.

To sum up the whole matter, then, you will find that in these two diseases, confounded by superficial observers, we have a prominence, at the bedside, of head symptoms in one, and abdominal symptoms in the other. We have symptoms also of pyrexia in one. We may have "typhoid pneumonia," using these words now in a different sense, "typhoid" as an adjective; with all the other differential signs already indicated. Then bad influenza, with capillary bronchitis, may also be mistaken for one of these diseases, purulent meningitis and a disease lately described in Ireland "cerebro-spinal meningitis."—*Dublin Med. Press.*

Death from Chloroform.—The following remarks we take from the *Medical Circular*:—Several operations were performed at the hospital last Wednesday, but after we had left, not expecting any thing of greater moment, a poor man was admitted with bad retention of urine. Great difficulty was found in passing the instrument, till it was at last arranged to try again under the effect of chloroform; the man was scarcely brought under its full action when he began to snore as if something was wrong; his face became suffused and red, the inspirations very seriously embarrassed. Attention was at once riveted on these signs of impending danger, and cold water was freely dashed over the face and chest, the root of the tongue was drawn forward and artificial respiration tried; some signs of reaction set in, but they were only of temporary duration. Galvanism was tried, but all was of no avail, the man was dead.

At the post-mortem, as we had almost anticipated, having seen the disease now so often, as described by Dr. Quain, there was a large, soft, and remarkably flabby heart; on examination under the microscope, every fibre in the left ventricle appeared to be undergoing fatty degeneration; the lungs were also congested; the poor man was only 29 years old, but appeared almost double that age. It appears rather too clear, that where such disease exists, as we said on a former occasion, there is very great risk in exhibiting chloroform. Mr. Erichsen, who used the utmost skill, and had recourse to every possible mode of resuscitation in the case, made some able references to the subject this week. We do not believe such cases will lead to a discontinuance of chloroform, but rather to more caution, and in minor operations a substitution of ice, as recommended by Dr. Arnott.

Fatal Asphyxia from Impaction of a Detached Bronchial Gland in the Larynx.—At the Royal Medical and Chirurgical Society (May 9th), Mr. George Edwards, of Wolverhampton, detailed the following interesting case, which occurred in a child of eight years of age, who, while at play, was suddenly seized with symptoms as of a fit. He was quickly carried home, and became violently convulsed, although retaining consciousness and the power of utterance; the countenance became extremely anxious, and he uttered the expression

that he should die. In the hurry of the moment there was no opportunity of getting any distinct knowledge of the previous history, beyond the surmise that the boy has swallowed something. The trachea was immediately opened, a little air issued from the opening, artificial respiration was attempted, but without effect, as the child gave but two gasps after the operation, and died. The post-mortem examination revealed the presence of a foreign body touching the under surface of the epiglottis, and extending through the rima glottidis into the larynx; the substance was whitish, and covered with mucus; on a very slight examination, it was evident that the body was a bronchial gland. Upon slitting open the trachea, the spot from whence the gland had issued was soon observed; it was on the posterior part of the right side, just above the bronchial bifurcation; the opening was ragged and irregular, and communicated with a cavity behind, sufficiently large to contain a nutmeg. No other evidence of disease was observed.—*Dublin Hosp. Gazette.*

Chloride of Zinc as a Caustic.—In many cases it is of great importance, in the use of choloride of zinc as a caustic, that it should not run. Such a one is at present under the care of Mr. Cock, of Guy's Hospital, in which it is being used to destroy a polypoid growth of the nose, part of which has been extracted. A paste made with flour was first tried, but this was inconveniently moist, and liable to run. Mr. Cock now uses plaster of Paris, which answers admirably. The paste may be made of suitable consistence, and it does not afterwards become in any degree more liquid. The duration of the pain, after its use in this way, is generally much less than if it be used in a paste more liable to liquefy.—*Medical Times and Gazette.*

Simulated or "Phantom" Tumors.—To state them *seriatim*, we have the following, as the chief conditions on which these variable tumors may depend:—1. Distention of the bladder. 2. Solid fæcal accumulations. 3. Irregular contractions of the intestine at two points, and distention of the intervening portion with flatus or with fluid fæces. 4. Spasmodic rigidity of a part of the abdominal parietes. It may, perhaps, seem almost superfluous to add the last, but practically, it is one of the most frequent sources of deception. An hysterical patient is quite capable of making a circumscribed portion of the abdominal wall rigid and hard, while the rest remains comparatively flaccid; and even in a person of calm, nervous system, the same condition may be produced by an instinctive reflex act, for the protection of a part of the belly which is tender on pressure. The recti muscles are peculiarly apt to be the seat of these contractions, which may, however, also occur in the lateral regions of the abdomen. It is rare, perhaps, for any one of the above-mentioned causes to exist singly and uncomplicated by any of the others. Neither of the first two, indeed, unless exaggerated by one or other of the latter, could properly rank as a "phantom" tumor. Hardened masses of fæces are probably, however, the most frequent of the exciting causes of the affection. By the irritation produced by their lodgment, the intes-

tines are made to contract irregularly, and local tenderness is also induced, which latter, in its turn, acts as an excitant, in producing reflex rigidity of a part of the abdominal parietes. It has been observed of phantom tumors, that they are by much more frequent on the right than the left side, and that not rarely there are present, in connection with them, indications of renal irritation. Both of these circumstances are probably to be explained by reference to the facilities afforded by the cœcum and ascending colon for the delay and accumulation of scybalous fæces. The period of early adult life would appear to be the one most liable to the development of this chain of symptoms. The simulated tumor in question is by no means met with only in the female sex, some of the most marked examples of it that we have seen, having been in young men. As it regards treatment, that should, of course, be modified according to the peculiar circumstances of the case. A brisk purgative will probably be a remedy almost always useful, and afterwards a course of nervine tonics, or perhaps of anti-spasmodics, may be exhibited with benefit. The chief importance of the cases is in the lesson they convey as to the necessity for great caution before pronouncing positively as to the existence of an abdominal tumor. The surgeon should always be content, in doubtful cases, to examine his patient, on several separate occasions, before venturing an opinion. In most cases, probably, the careful employment of percussion and palpation will be competent to decide the question correctly; but if there be the least doubt remaining, the diagnosis should be deferred until, after the free action of a purgative, a second examination has been instituted.—*Medical Times and Gazette.*

SURGERY AND SURGICAL PATHOLOGY.

Successful Removal of the Superior Maxilla and Eye of the Right Side for an Encephaloid Tumor.—M. Maisonneuve recently presented to the Academy of Medicine, Paris, a patient, on whom he performed this operation, on the 27th of July. We take the following particulars of the case from the *Revue de Therapeutique*:—The patient, aged 46, had perceived a slight swelling, for six years, on the right inferior orbitary margin; for several years the tumor seemed to remain stationary; but, about 1850, its growth became apparent, and he consulted many physicians. He took, without benefit, various remedies, as preparations of iodine, cicuta, arsenic, etc. In 1853, the cheek greatly tumefied, became the seat of deep ulceration and lancinating pains. It was soon after this that the patient came to Paris, and placed himself under the care of M. Maisonneuve. The right side of the face was now enormously swollen, owing to the cancerous degeneration of the entire superior maxilla with the soft parts of the cheek, the orbit, the inferior eye-lid, and the right side of the nose, the centre of which was deeply ulcerated and discharged a fetid ichor. The patient could obtain no rest on account of the pain; left to himself, death was inevitable; and, as medical remedies had been faithfully employed, the only hope was in an operation. This had been pro-

nounced impossible of execution by distinguished surgeons; but, considering that the disease had not invaded any vital organ, that the cervical ganglia were uncontaminated, and that there was no evidence of cachexia, Maisonneuve thought that there was some chance of saving the unfortunate person by an operation, and did not deem it right to refuse this last resource of art. The operation was accordingly performed on the 27th of July, 1854. The patient took chloroform. The operator made a longitudinal incision upon the right side of the nose, prolonged to the free border of the upper lip; the second incision began at the external commissure of the eye, and passed around the external border of the ulceration and joined the first at the alæ nasi. By dissection, the whole anterior portion of the tumor was exposed; a chain saw was then passed in at the spheno-maxillary fissure, and brought out under the zygomatic arch, and the included portion sawn through. The palatine arch and ascending apophyses of the superior maxilla were divided with Liston's forceps, and detaching the velum palati with the bistoury from its attachments, he everted the tumor, and completed its extirpation with the scissors. He now proceeded to extirpate the eye and destroy the diseased tissue within the orbit, the nasal fossæ, and frontal sinuses. The lips of the wound were then brought together, except a vacant space in the centre of the cheek, which was allowed to remain unclosed, the better to observe the progress of cicatrization. No bad results followed, and, in six weeks after the operation, he recovered his usual strength and flesh, and, by means of an obturator, ingeniously contrived by Charrière, the loss of substance is not perceived, and the speech is as perfect as ever. On examination, the disease proved to be osteo-sarcoma of the superior maxillary bone; the globe of the eye was free, but the tissues around it were diseased.

Case of Hydrocephalus, in which the Head was Tapped eight times.—Mr. Brown reports (*Assoc. Med. Jour.*) the case of a child, aged six months, suffering from chronic hydrocephalus, whose head was tapped eight times. At the first operation (August 6th), six ounces of serum were removed, and the head tightly strapped; condition much improved; 18th, head was as large as ever, six ounces removed; September 6th, head still larger, eleven ounces removed; 28th, twenty ounces; October 8th, eleven ounces; 18th, sixteen ounces; 25th, twelve ounces; Oct. 30th, abandoned tapping and inserted a seton of silk through the membranes of the brain, running it along the interior an inch before bringing it out; no immediate result followed, but large quantity of serum discharged. At the end of twenty-four hours there were vomiting, restlessness, and expression of pain; in thirty-six hours twitching of muscles were observed, with moaning and stupor. The seton was removed and the symptoms improved; the head was diminished in size, but soon began to enlarge; tapping was again performed, but the fluid quickly collected, and the case was abandoned to Nature. The head continued to enlarge, and the child died. On examination, a large wash-hand basin of serum was removed; the containing sac was formed by the brain, completely unfolded, and no thicker than the dura mater.

Amputation of the Tongue.—Maisonneuve recently removed the tongue for a cancerous affection. The patient was President of the Committee of Vaccination, and was accustomed to hold the small glass tubes, in which the matter was preserved, in his mouth. The sharp points of glass often wounded the tongue, and these punctures were followed by pimples; induration supervened, which he endeavored to remove by cauterizations. This aggravated the disease and led to deep ulceration; to this the actual cautery was applied, which only gave still greater activity to the affection. The tongue became enormously tumefied; speech was impossible, and only liquid diet could be used. Various remedies were employed without benefit, and amputation was finally decided upon. The operation is thus described by the operator:—

"The patient having been submitted to chloroform, I first incised, on the median line, the lower lip and the soft parts of the chin. Next, with a chain saw, I made the section of the lower jaw; the two branches of which being thus separated, I was enabled to grasp the tongue and draw it out. By a rapid dissection, the diseased organ was then separated from the healthy parts, as far as beyond its anterior half, and over an extent of one inch. The sublingual gland had also to be sacrificed. Ligatures were applied upon the important vessels, so as to prevent hæmorrhage. After this operation, the branches of the jaw were brought together, and maintained in contact, by means of thread rolled round the incisor and canine teeth; the ligatures placed upon the vessels were directed under the chin, in the inferior angle of the chin; and the edges of the division were united by means of the twisted suture. Notwithstanding the extreme gravity of this operation, no accident resulted. The union of the external parts was effected by first intention; the enormous loss of substance was rapidly repaired; the bones became consolidated; and, what is remarkable, forty days after the operation, the patient had recovered his speech, and the faculty of seizing and masticating his food. On examination, the tumor was found to belong to the class of epithelial cancroids."

Femoral Hernia.—A very instructive case of femoral hernia was operated on last week by Mr. Quain, in watching which, we must confess, we felt at fist a little at sea, till the *rationale* of the proceeding was explained to us by this very excellent operator and anatomist. Mr. Quain, to us, at first punctured something like what would be a hydrocele if the patient were a man; next, though wishing to avoid opening the sac, opened two sacs, and wound up, we believe, by leaving Gimbernat's ligament, the bowel, and the other classic parts of the hernia operation, unnoticed altogether. The case was that of Rose Turner, aged 75, admitted Oct. 30th. Mr. Quain, in some clinical remarks, gave the details of another similar case, the only two he had ever met in an immense experience; the woman had a large, troublesome, irreducible hernia in the present case, not at all tender, and curiously placid; she was ordered an enema with castor-oil, and a dose of laudanum to cause rest; the enema was repeated twice, but still the placid hernia could not be reduced; vomiting now setting in, Mr.

Quain advised the operation, which, after some hesitation, she agreed to.

Operation.—Having been partly placed under chloroform to dull the sensibility, a fuller examination of the tumor was made, Mr. Erichsen and Mr. Quain trying the taxis for a last time; it seemed, however, of no use, notwithstanding the curiously-placed state of the tumor. Mr. Quain now punctured the latter, when a full flow of serum followed, which he smelt, to be sure the bladder had not been in the way; making a good bold incision now, he laid open the tumor, still striving to reduce it, without going into what might be the sac; at last, however, he went very carefully into the latter on a director, but there was no bowel! We can quite fancy how puzzled some of our good country friends would be with such a case, without any one at hand to consult, late at night, out on the side of a mountain, in a Scottish land, or on an Irish common, where poor-law guardians pay so munificently. Mr. Quain and Mr. Erichsen now examined the parts, and on slitting them up on a director, and giving exit to a little serum, found behind this sac a smaller tumor, which required some skill to separate from the anterior sac; this posterior sac contained the bowel, apparently not strangulated; from the excessive vomiting of the patient, however, Mr. Quain thought it best to go on with the operation, and opening the second sac, reduced the bowel in the ordinary way; the chief practical fact in the case, as remarked by Mr. Quain, was, that you may have one sac over another, and bad hernia, though there are no external indications.—*Med. Circular.*

Strangulated Hernia, masked by a Tumor in the Groin. By J. Windsor.—On the 6th of March, 1854, I was requested by his son to visit John Horsfield, aged 62, residing at Whitefield, a few miles from Manchester, on the Bury road. I went almost immediately; but he had died about half-past three P. M., before my arrival.

I ascertained the following particulars:—viz., that, eight days before, on Sunday morning, the 26th of February, after a very straining, costive evacuation from the bowels, he was seized with pain in the lower part of the abdomen, sickness, and vomiting. These symptoms, with constipation of the bowels, continuing, a neighboring surgeon was called in, who used a variety of means without affording any decided relief. The tumor or chronic inguinal enlargement was examined, but no hernial descent could be detected; it was therefore supposed that no operation was indicated, and the case progressed to its fatal termination. On one occasion, about twelve months previously, I had an opportunity of examining the inguinal tumor, which was of a somewhat dusky color, projecting immediately under the integuments, and of about the size of a rather large pullet's egg. It was not attended with much pain or inconvenience. Permission being now granted, about two hours after his death, to examine the parts, I found the tumor composed of apparently degenerated glandular substance, most like friable decayed cheese, and of a brownish color, without any appearance of vascularity or organization. On examining behind this if there might be any hernial protrusion, I found outside the external ring a knuckle of small

intestines, of a darkish purple color, the descent of which, doubtless, had occasioned the severe symptoms and fatal termination of the case.

Remarks.—The proper mode of combating with success cases like this must at once be apparent; as, although the hernial protrusion may be very difficult of detection, from the superincumbent tumor, yet, if there are unequivocal symptoms of intestinal obstruction, I think it will be conceded that we are justified in making an exploratory incision, by which, as occurred in Mr. Brown's interesting case, above referred to, we may sometimes succeed in rescuing a patient from much suffering, and, indeed, impending death.—*Association Journal.*

Extraction of Foreign Bodies from the Œsophagus.—M. Nelaton has collected with care the various modes of procedure for the extraction of foreign bodies arrested in the œsophagus, and he, in particular, examines the mode of extracting fish-hooks, the removal of which is a matter of great difficulty. In speaking of œsophagotomy, this skillful surgeon proposes a proceeding, which, according to him, is simpler than any other operation. Instead of making a lateral incision, M. Nelaton divides the integuments in the median line, as is done in tracheotomy, but making a more extended incision; he then separates, to the same extent, the sterno-hyoid muscles, so that they can be drawn apart by blunt hooks, or, if necessary, divided transversely, in order to give more space; that done, the isthmus of the thyroid body is laid bare; beneath it is passed a blunt needle, carrying a double thread, in order that two ligatures may be applied; between the two ligatures, the isthmus of the thyroid is divided. The trachea being thus laid bare, the left lobe of the thyroid is separated from it by a blunt instrument, keeping, at the same time, close to the trachea; at the bottom of this cleft, between the trachea and thyroid, the œsophagus is necessarily found, and is to be opened in the ordinary way. By acting thus, all risk of wounding the large vessels of the neck is avoided, and the operation may be performed without injuring the thyroid arteries.—*Elements de Pathologie Chirurgicale.*

Treatment of Strabismus from Paralysis of the third or sixth Nerve, by Cauterizing the Ocular Conjunctiva.—M. Deval, of Paris, has lately repeated this operation, which was first advised and performed by Dieffenbach. The cases in which it is called for are those of paralysis of the third or sixth nerve, without any actual cerebral lesion. The author operates as follows:—The parts should first be well brought into view by using a retractor to the upper lid, which latter should be drawn either to the inner or outer side of the eye, according as the internal or external rectus is affected. The operator himself presses down the lower lid, and, having well cleansed the spot to be cauterized, passes a pencil of nitrate of silver along the course of the muscle. A little brush, dipped in salt water, may then be used to carry off the superabundant particles of caustic. The muscle, thus stimulated, has been known to act pretty well again, as proved by cases quoted by M. Deval. It should be recollected that the internal rectus is inserted into the sclerotic about two lines from the margin of the cornea; the

tendon of the external rectus is thinner, broader and more fibrous than that of the same muscle on the inner portion of the eye, and is fixed on the sclerotic at about three lines from the margin of the cornea. Cold applications will suffice for controlling the inflammation which may follow the operation.—*Lancet.*

THERAPEUTICS.

Sugar of Lead, in Diarrhœa, attended with Sickness of the Stomach.—℞. Morphiæ acetatis, gr. ss.; aceti-destillat., ʒij; plumbi acetatio, gr. xxiv.; aquæ destillat., ʒiiiss.; sacch. albi, ʒij; aquæ lauro cerasi, ʒij. lb. Tablespoonful every three or four hours.

Counter-irritant Plasters.—Dr. Hughes uses the following plaster in chronic chest affections:—℞. Emplast. picis comp., ʒiss.; antim, potassio tartratis, gr. x. Dissolve and make a plaster. The plaster is worn for a few days, and then cut away piecemeal, as the pustules show themselves. The cases in which it is employed have been those of chronic pneumonia—either idiopathic or complicated with phthisis, and severe, old-standing bronchitis.

Chloride of Ammonium in Chronic Bronchitis.—Dr. Delvaux has used this remedy in twenty cases with great success. He gives 15 to 40 grains in the twenty-four hours, preceding it always with a purgation, and prescribing a strict regimen for several days.

Treatment of Acne.—In the treatment of this disease, at the London Hospital, for skin diseases, the patient is directed never to wash the face with soap; to be particular to squeeze out any little black points which become visible, and to apply every night to the tubercles a small portion of an ointment, of which the chief active ingredient is the ammonio-chloride of mercury, in the proportions of ten grains to the ounce. The best constitutional treatment in acne simplex is the sulphate of iron, in combination with the sulphate of magnesia, and an access of acid is usually employed; but, in the acne indurata, the iodide of iron is preferred. In either case, the remedy must be continued several months, and the patient may be promised, as a reward, that the disease will be cured and the health improved.

Quinine in Neuralgia, following Herpes Zorta in old people.—Dr. Durrant has treated three such cases successfully which had resisted ordinary remedies, with quinine. It acted as promptly as a specific; on being omitted the pain returned, but was promptly relieved on resorting again to quinine.

Ethereal Solution of Nitrate of Silver.—The usual strength of this solution, as employed in the London Hospital, is eight grains of nitrate of silver to an ounce of the nitric ether; its strength may be modified according to necessity. It has this advantage over the aqueous ablution, that it dries sooner, and is more easily absorbed by the skin, the ether dissolving the fatty matter that exists.

A new form for administering Opium and Acetate of Lead in Cholera.—Mr. Donovan recommends the following:—℞. Acetate of lead, gr. ij; acetate of morphia, gr. $\frac{1}{12}$; acetate of codeine, gr. $\frac{1}{6}$; distilled vinegar, ʒss.; distilled water, ʒi; mix for a draught. Such draughts

commence their action as soon as swallowed, and may be repeated as desired.

Common Oat as a Diuretic.—Take two handfuls of oats to a quart of water, and boil for a quarter of an hour; of the strained decoction a teacupful should be frequently given as an ordinary drink.

Ozæna treated by nasal irrigations.—MAISONNEUVE asserts that an injection, thrown *forcibly* into one nostril, will escape from the other without penetrating into the throat, and by this means a continuous current may be kept up through the nostrils. The operation is not painful, and may be practiced by the patient himself. Applying this experiment to the treatment of ozæna, the affected surfaces may readily and effectually be cleansed, with medicated injections, of all crusts and secretions which by their presence and irritation tend to keep up the diseased action.

MISCELLANEA.

Statistics of the Blind and Deaf in Great Britain.—Whole number 21,487, totally blind, of whom 11,273 are males, and 10,214 females. The number in England and Wales is 18,306, of both sexes, in Scotland, 3,010, and in the islands of the British Seas, 171. This gives a proportion of one blind to every 975 persons in Great Britain, one in 979 in England and Wales, one in 960 in Scotland, and one in 837 in the Channel Islands, one in 864 in Ireland.

Pay of British Army Medical Department.—Full pay, per diem, after actual service (in years)—Inspector-General, twenty-five years, £2; twenty years, £1 18*s.*; ten years, £1 16*s.*; Deputy-Inspector, according to the same gradations of service, £1 10*s.*; £1 8*s.*; £1 4*s.*; Staff-Surgeon, first class, ditto, £1 4*s.*; £1 2*s.*; 19*s.*; Regimental-Surgeon, and Staff-Surgeon, second class, ditto, £1 2*s.*; 19*s.*; 15*s.*; under ten years, 13*s.*; Assistant-surgeons, ditto, 10*s.* and 7*s.*

Medical Men for Emigrant Ships.—By the following Act of Parliament, called the Merchant Shipping Act (1854), which is to go into operation 1st of January, 1855, it is provided that the following ships shall carry on board, as part of their complement, some person duly authorized by law to practice as physician, surgeon, or apothecary:—
1. Every foreign-going ship, having 100 persons or upwards on board.
2. Every ship having 50 persons or upwards on board, which is bound on a voyage from the United Kingdom, to the eastward of the Cape of Good Hope, or to the westward of Cape Horn, or to any place on the West coast of Africa, or the East coast of Central or South America, or to the Falkland Islands. Penalty, £100.

Ignorance of Surgeons of the Art of Prescribing.—Mr. Solly, of St. Thomas' Hospital, London, stated in a recent introductory lecture, that the following rule in that hospital, adopted in 1689, was only abolished within his own time:—Ordered, that the ancient rule of this hospital, that no chirurgeon shall give any physic to any patient admitted into this house, but that the doctor alone be left to prescribe physic to all patients, be confirmed, and for the future strictly observed.

PART FOURTH.

AMERICAN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On Muriated Tincture of Iron in Yellow Fever. By E. D. Fenner, M. D., of New Orleans.—I have prescribed it in about thirty cases at the Charity Hospital, and ten cases in private practice, and must say that I think it a valuable addition to our stock of remedies in this terrible disease. I have not ventured to rely upon it *exclusively*, but have given it cautiously, and called in the aid of other remedies, when they appeared to be demanded by the exigencies of the case, such as cupping, purgatives and diaphoretics. I have usually given to adults twenty drops of the tincture, in a little water, every two hours, commencing as soon after the attack as the bowels were well evacuated by castor oil or some other gentle cathartic. The remedy seems to be best adapted to the *early* stages of the fever. The *good* effects I have observed from it are the following: It appears to relieve the pains in the head and back, and induces sleep; it allays thirst, causes a copious secretion of urine, and most generally promotes perspiration; it appears to soften and reduce the frequency of the pulse; it generally sits well on the stomach until ten or twelve doses are taken, and causes an appetite for food, which is sometimes ravenous. On the other hand, I have observed the following *objectionable* effects from it: It sometimes causes vomiting, when continued too long; and is apt to produce constipation of the bowels, though not in all cases; if given late in the disease, it sometimes creates burning in the stomach, and makes the tongue dry. I have not *seen* any benefit from it in *black vomit*, nor much, indeed, after the second day of the fever. I lost two severe cases at the Charity Hospital which commenced taking the tincture on the *second day* of the fever, and four or five others that commenced later, some of them already in a hopeless state; but have had no death, either in the Hospital or private practice, when the remedy was commenced within twelve hours from the attack. I must repeat, however, that my treatment was not confined to this remedy alone. In several it was discontinued, *for cause*, and in others efficient adjuvants were resorted to. In some cases the remedy appeared to act like *a charm*, completely subduing the disease in twelve or twenty-four hours; in others it appeared to do no good. Slight hemorrhage from the nose, gums or

uterus appeared in a few cases treated with this remedy, and this was always followed by good effects. It may be supposed by some persons that the cases which yielded so readily under the use of this remedy would have done equally well without any thing but a mild cathartic and warm teas. This is certainly *possible*, but I am not inclined to think it equally *probable*. I repeat, that so far as my experience as yet goes with the muriated tincture of iron in yellow fever, I am inclined to think it possesses considerable *virtues*, and that it well deserves the attention of the medical profession.—*New Orleans Med. News.*

New Indigenous Medical Plants of California. By G. L. Simmons.—Among the indigenous medical plants of California, there are two in common use which seem to possess virtues worthy of notice, the knowledge of which has been acquired by the Americans from the native Californians or hunters. One of them is the Spanish "*Amole*" or soap plant.

This plant was noticed by "Fremont" and other writers on California for its saponaceous properties, but it has only been since the occupancy of the State by the American people, consequent upon the gold excitement, that a knowledge of its medical properties has been known. Presuming it has been botanically described, (not having the authorities to certify the fact) I will merely give its chief characteristics only for the purpose of identification.

The "*Amole*" is a bulbous plant; leaves lanceolate, accuminate, radical, entire, glabrous from 8 to 12 inches in length; scape from 3 to 6 feet high; flowers white, in terminal racemes, panicles small; perianth tubular, 6 parted, 10 lines in length; ovary 3 celled; bulb perennial, 3 inches in diameter, 4½ inches long; scaly; external scales dark brown and fibrous, internal layers white and tender.

Habitat.—Neighborhood of lagoons, Sacramento Valley.

The bulb is the portion used for medical purposes. This, when broken apart and agitated with water, forms a soft and creamy mucilage, from which it has derived its name of "*Amole.*" The mucilage resembles the "*Mucilago acacia.*" Boiling thickens it, and a solution of the subacetate of lead affords no precipitation. It has a sweet taste, and leaves no unpleasant sensation in the mouth. Two drachms operate as a laxative in from four to six hours.

Its principal use in California is as an external emollient application. Many Americans while traveling through the States have been poisoned by the "*Rhus toxicodendron,*" which grows there in great abundance. The poison from this article in California is generally of the most violent type, and the usual course of treatment has often failed to afford relief. Some persons when suffering from the malady were advised by the *natives* to make an application of "Amole," and after doing so found themselves relieved; until now the remedy is well established, and in common use. Not only is it beneficial in subduing the inflammation consequent upon poisoning, but in all erysipelatous affections, and many cutaneous diseases, it has proved itself a safe and

reliable remedy. It is prepared by taking off the coarse external scales of the bulb, and grating the remainder in a close vessel, a sufficient quantity of water is then added, and the whole triturated until a thick mucilage is formed; this is strained through coarse muslin, and it is applied to the affected part in a similar manner to a *cataplasm*, at the same time it is administered internally as often as may be necessary to keep the bowels open.

"*La Yerba Resinosa*" (so-called by the Californians,) is another plant worthy of notice. It grows from 1½ to 3 feet high. Leaves, alternate, sessile, oblong obtuse, serrulate, deciduous, 2 inches long; flowers, collected into a dense capitulum; scales, setose, monaceous; diameter, 1 inch; color, orange yellow. The leaves, head, and stem of this plant are covered with a transparent resinous substance, which has a strong aromatic odor, resembling somewhat that emanating from the balsam fir. This resin is most abundant when the plant is in full flower. At these times if the finger is applied to the under side of the capitulum, and allowed to remain there for a few seconds, upon withdrawal the resin will be found adhering in long transparent strings. It gathers in tears around the base of the scales, and is a source of inconvenience to the traveler, who is obliged to come in contact with it. The plant flowers from June until August, and its odoriferous properties are so strong and peculiar, that the scent which at first seems pleasant, finally becomes disagreeable, and even sickening. An alcoholic tincture of the leaves and flowers in the proportion of two ounces to one pint of sp. vin. rect., yields upon evaporation two drachms of the resinous substance. Obtained in this form, it presents a greenish black appearance, and retains the peculiar odor of the plant.

The medical properties of "La Yerba Resinosa" are those of a tonic *febrifuge*. The prevailing malady in California is intermittent fever. In some localities, at certain seasons of the year, no age or sex is exempt, and the discovery of an indigenous plant possessing the properties of the usual febrifuge remedies, cannot fail to prove a blessing, especially to those who reside at remote distances from cities and towns.

The usual manner of preparing this remedy is by decoction, although many make a tincture with some kind of alcoholic liquor. The last method would seem to be preferable, as the resinous property of the plant is soluble in water only to a limited extent.

Its effects upon the system seem to be somewhat similar to those produced by cinchona, yet they more closely resemble those produced by the action of the Eupatorium perfoliatum. Given warm, even when a chill or fever is present, it produces a profuse diaphoresis, and carried to any extent, catharsis, and sometimes emesis. It is used in dysenteries and diarrhœas, as well as fevers; and as these maladies in California are usually more or less complicated with intermittent symptoms, it is given with considerable benefit. From its abundance and apparently high medicinal virtues it is to be hoped that medical men generally will test its efficacy, and if it does possess the attributed properties, have it placed in a prominent position in our *Materia Medica.—American Jour. of Phar.*

Worms in the Urinary Bladder. By BENNET DOWLER, M. D.—A case of this anomaly is reported by Dr. D. in the November number of the *New Orleans Medical and Surgical Journal.* The patient, a lad aged thirteen years, had been in bad health for a long time. The father of the boy, Mr. B., having assembled his neighbors for the purpose of "*a house raising*," at which whisky was drank as usual, some of the men succeeded in getting Mr. B.'s boy to drink until he became quite intoxicated. A painful and obstinate retention of urine followed, which lasted four days, and which did not give way until he discharged several living worms from the urethra, some of which were fifteen inches long. He has since discharged from the urethra a number of similar worms—in all about twenty; three of which were delivered to me by the parents, inclosed in a phial of whiskey. One of these exceeds ten inches in length, and is nearly one inch in circumference for the distance of three inches from the head backward. A longitudinal band, which is smooth, constitutes the belly. One-fifth of the body, next the head, has numerous well-defined semi-circular rings, which are obliterated on both sides as they approach the abdominal band. The middle third of the worm is nearly smooth; the tail becomes rough, wrinkled, and annulated like the undeveloped joints of the tapeworm. The anterior portion of the body is nearly uniform in size for more than one-third of its length; it then abruptly diminishes to less than two lines in diameter; two considerable enlargements occur in the posterior third, or caudal extremity, which latter has a thread-like termination. These enlargements divide the tail into three unequal parts.

The head consists of numerous well-defined rings, closely set, which compress the cephalic extremity more and more for a quarter of an inch—from the centre of which projects a proboscis, which at its emergence is more than a line in diameter, and about two in length, formed of rings, which become smaller until they terminate in the blunt proboscis which is studded with strong fangs or hooks. In the interior of the animal, adhering the back or dorsal aspect, two large parenchymatous columns, varying in size with the body, extends its whole length, being like lard in color, but a little firmer in consistence.

The other two worms appear to be of a different species, resembling tænia in structure, being flat and having numerous short annulated articulations with acute margins, like the joints of the tapeworm before development; one worm is five and a half inches in length—the other something less, both being almost uniform in size, scarcely averaging a line in width. All of these worms are white.

SURGERY.

Report on the Relative Value of Lithotrity and Lithotomy. By Prof. L. A. DUGAS, M. D., of Ga.—The *Southern Medical and Surgical Journal*, for December, contains a report on this subject, made to the Medical Society of the State of Georgia. We have room only to extract the following:—

In treating the subject assigned us, the question of the relative

fatality of the two operations presents itself as one of primary importance. By reference to the works of M. Civiale, and to the more recent treatise of Mr. Coulson, we find a very considerable collection of statistical information; a portion of which we will use without further reference. Mr. Coulson has collected well authenticated reports of no less than 6,369 operations of Lithotomy, "more than two-thirds of which have been performed since the commencement of the present century," in which "the number of deaths was 958, and the general mortality, therefore, 1 in 6.62 cases." From the tables published by M. Civiale, it appears that of 582 lateral operations performed in France, 101 resulted fatally, making the proportion of deaths 1 in 5.70, and of 2,278 cases of Lithotomy performed in various parts of Europe, 443 terminated fatally—or 1 in 5.14. From the tables of Mr. Coulson, the results in Great Britain were, in 1,744 operations, 251 deaths or 1 in 6.93. According to Mr. Coulson's estimates the fatality of Lithotomy at different ages may be thus stated:—

Below 10 years of age, it is				1 in	13
From 10 to 20	"	"	"	1 "	9
" 20 to 30	"	"	"	1 "	6
" 30 to 40	"	"	"	1 "	5
" 40 to 50	"	"	"	1 "	4
" 50 to 60	"	"	"	1 "	3.65
" 60 to 70	"	"	"	1 "	3.23
" 70 to 80	"	"	"	1 "	2.71
Aggregate proportion,				1 "	8.37

M. Civiale arrives at the following result:—

From 1 to 10 years of age, the deaths are				1 in	8.47
" 11 to 20	"	"	"	1 in	7.41
" 21 to 30	"	"	"	1 in	4.62
" 31 to 40	"	"	"	1 in	5.32
" 41 to 50	"	"	"	1 in	6
" 51 to 60	"	"	"	1 in	2
" 61 to 70	"	"	"	1 in	1.89
" 71 to 80	"	"	"	1 in	1.20
Aggregate proportion,				1 in	5.94

The Records of Pennsylvania Hospital, according to Dr. Norris (Report in *Trans. Am. Med. Association*, vol. i.) show that from 1752 to 1848, there were 83 operations of Lithotomy, of which 72 were cured, 10 died and 1 was relieved. The private practice of surgeons, both in Europe and in this country, has in many instances presented a striking contrast with the statements derived from hospital records. It is unnecessary, however, to furnish further statistics upon this portion of our subject.

With regard to the fatality of Lithotrity, we find ourselves restricted to the writings of M. Civiale for any thing specific. The success of this distinguished surgeon in the treatment of calculous affections is

without a parallel; and, although his statements were at one time (doubtless from a narrow spirit of envy) made the subject of serious imputations, they are now generally conceded to be fairly established, and are, we believe, so recognized by the French Academy. M. Civiale has published a complete account of each case, as well as tables of results. From 1824 to 1848, he had 848 cases of calculous disease —upon 591 he performed Lithotrity, of whom 14 died, or 1 in 42.21. The following will exhibit the number of cases, at different ages, so far as recorded:—

25	cases,	from	1	to 20	years	of age.
80	"	"	21	to 40	"	"
124	"	"	41	to 50	"	"
44	"	"	51	to 60	"	"
234	"	"	61	to 80	"	"
5	"	"	81	to 90	"	"

M. Leroy d'Etiolles reports 11 deaths in 116 operations. M. Heurteloup states that he has lost but 1 in 8.

The conclusions of M. Civiale (op. cit., p. 48) with regard to the relative value of Lithotrity and Lithotomy, are as follows:—1st. Lithotrity, when well performed in appropriate cases, will save from 96 to 98 patients in 100. 2d. The remaining fourth of calculous subjects unfit for Lithotrity may be subjected to Lithotomy. 3d. By Lithotomy, if exclusively practiced and without distinction of age, from 20 to 30 per cent. will be lost. 4th. If applied to children exclusively, Lithotomy will save nine-tenths. 5th. If applied to adults of all ages, Lithotomy saves from 50 to 75 per centum.

Case of Hypertrophy of the Male Mamma—Removal. By Prof. Paul F. Eve, M. D., of Nashville, Tenn.—This was a singular case, and came from Texas. The enlarged mamma has existed years, and having resisted various discutient applications to remove it or check its growth, it was thought best to resort to the knife. The patient is 23 years of age. The left mamma has the aspect of the breast of a girl at fifteen or sixteen; its nipple is quite sensitive to the touch, and has a large areola around it, and the body of the tumor feels fibrous through the skin. No pain has ever been experienced in it. On the same day of the two preceding operations, viz., Thursday the 5th, the enlarged mamma was removed by elliptical incisions including the nipple, while the patient was in a profoundly insensible condition produced by chloroform and ether, and the usual dressing then applied. Although there was apprehension that the circulation was at one time greatly embarrassed during the inhalation of the anæsthetic agents, he soon threw off their influence, and has had a speedy recovery.

The mass removed is flat, nearly the size of the palm of the hand, and is apparently a hypertrophied mamma, without any redundancy of adipose structure. It has not yet been subjected to the microscope.—*Nashville Jour. of Med. and Surg.*

Case of complete Extirpation of the Uterus for Inversion.—Recovery. By Prof. E. Geddings, M. D., of Charleston, S. C.—From the *Charleston Medical Journal*, we learn that Prof. Geddings has successfully removed the uterus for inversion. The patient was a negress; the accident of some eighteen years' standing. On examination, a large pyriform tumor, equal in magnitude to a fœtal head at the full term, was observed, proceeding from within the vagina, and hanging between the thighs of the patient. Its surface was covered with a rough, thickened mucous membrane, abraded and ulcerated on many points. The orifice of the urethra was but little removed from its normal position. The operation for its removal was performed by seizing the tumor high up and manipulating in such a manner as to exclude all the convolutions of the intestines, which could be readily felt, and then passing a strong ligature around the part. The neck of the tumor was then divided below the ligature by a single snip of a probe-pointed bistoury. The operation was easy and attended with no pain. On making a section of the tumor, it presented a solid homogeneous mass, of a grayish white texture and fibrous appearance. The whole cavity, formed by the inversion of the walls, had become obliterated by the adhesion of the opposing peritoneal surfaces. The after treatment of the case was simple, and the patient in the course of a few days speedily recovered.

Case of Rupture of the Uterus. Operation of Gastrotomy—Recovery. By John K. Mason, M. D., of Philadelphia.—We find in the *Quarterly Summary of the Transactions of the College of Physicians, of Philadelphia*, the report of a case of successful gastrotomy for rupture of the uterus. The patient was in labor with her sixth child. Rupture of the uterus occurred two hours and a half after her sickness commenced, and when in the act of defecating, immediately on the occurrence of which she complained of intense agonizing burning pain in the right side. The head of the child receded, and could be felt through the abdominal parietes. Twelve hours after the occurrence of the rupture, Dr. Neil performed gastrotomy under the influence of ether, by an incision through the linea alba, six inches in length. The child, which was hydrocephalic, was removed, together with the placenta and large quantities of coagula. The usual sutures and dressings were applied. Considerable constitutional disturbance occurred during the first ten days; but, on the twenty-first day, she was about house, and one month after she had entirely recovered. A like successful case of gastrotomy in rupture of the uterus is reported in the April (1854) number of the *American Journal of Medical Science*, by Dr. John T. Gilman, of Portland, Me. The operation was performed twenty-one hours after the occurrence of the accident.

Cæsarean Section twice successfully performed on the same Subject.—By W. H. Merinar, M. D., of Miss. In the *Medical Examiner*, Phil., we find the particulars of the following case:—A woman, aged 24 years, was taken in labor on the 14th of July, 1852; for three days

she was attended by a midwife; the labor had been active, and the waters had escaped on the second day. On the arrival of Dr. M., he found great deformity of the pelvis—its antero-posterior diameter not exceeding two inches. On the morning of the 18th, uterine contractions ceased, the patient lay exhausted and stupid, skin hot and dry, great tenderness over the abdomen, much thirst, and pulse 124. After consultation, Cæsarean section was decided upon. An incision, five and a half inches in length, was made. The uterus was then laid open and a dead male child extracted. The placenta and membranes were then removed; the usual dressings were applied. In the course of recovery no very severe symptoms manifested themselves, and on the 20th of September she had entirely recovered. On the 22d of May, 1854, she was again taken in labor; the pains were violent, and, at midnight of the same day, were so severe, notwithstanding the free use of opiates, as to threaten danger. Cæsarean section was again decided upon. An incision was made parallel with the first. The womb was laid open and a living male child removed. Following the delivery of the placenta and membranes, there was but little hæmorrhage. The usual dressings were then applied. On the fourth day after the operation, somewhat severe symptoms set in, which, however, were controlled by energetic treatment; after this her recovery was gradual. On the 28th of August, both mother and child were enjoying good health.

Surgery in California.—We find, in the *Marysville Daily Herald*, an account of the operation of wiring together the united fragments of the thigh-bone of an Italian, which had been fractured eight months previously. The operator was Dr. McLean, of the French Hospital of that city, and the operation seems to have been performed dexterously, and gives promise of success.

MISCELLANEA.

*Positive Medical Agents.**—We have received a volume prepared by B. Keith & Co., of this city, bearing the foregoing title. The work contains a description of the various substances prepared by the Institute, their physical properties; mode of administration; medicinal properties; formulæs for their combination with each other, for the cure of diseases for which they are applicable, etc. In regard to the mode of preparation of the remedies described, we have searched throughout the volume for some satisfactory information, but have failed in obtaining it. Of the value of the agents described, our own experience is too limited to pronounce correctly upon this point. We should be glad to hear from any of our readers who may have used or shall hereafter use them.

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* *Positive Medical Agents: Being a Treatise on the New Alkaloid Resinoid, and concentrated Preparations of indigeneous and foreign Medical Plants.* By authority of the American Chemical Institute. New York: C. B. Norton, 1854, 8vo. pp. 304.

*Biographical Sketches.**—A kind friend has sent us a copy of this interesting pamphlet. We know of no subject so pleasing to, and at the same time so well adapted for, the intellectual repast of the younger members of our profession, on the occasion of their Annual Meeting, as the reminiscences of the past—the incidents of the early struggles of the pioneer physicians of our State. We have been oft-times surprised that the themes for our annual address were not more frequently chosen from this field of historical research. We commend this little brochure to the careful perusal of our readers.

New Editions of Medical Books.—The well-known publishers of this city, Messrs. S. S. and W. Wood, have recently issued new editions of the following works:—Quain's *Anatomical Plates*, 4to., with 200 plates; Goddard *on the Teeth*, 4to., with 30 plates; Harrison's *Text Book of Anatomy; Dublin Dissector;* Beck's *Infant Therapeutics.* They announce also for publications Johnson *on Diseases of the Kidney.*

Viviparous Fish.—Dr. Bennet Dowler has recently published an account of a small osseous fish, found in the neighborhood of New Orleans, which proved to be viviparous, having at the time of the examination twenty-two well formed young in its body. The same species of fish had previously been discovered by Dr. Gibbons, in California.

OBITUARY.

Death of John P. Hiester, M. D.—Dr. Hiester died in Reading, Pa., on the 15th of September last, aged 51 years. He was born in Berks county, Pa., in 1803. In 1827 he graduated at the University of Pennsylvania, having presented a thesis "*On Indigestion.*" He was a distinguished practitioner, a great lover of botany and chemistry. He was enthusiastically devoted to the great interests of the profession, and was lately President of the Pennsylvania State Medical Society.

Death of Dr. T. Mather.—Died in Binghamton, N. Y., on the 8th of October last, Dr. Thaddeus Mather, in the 76th year of his age. He was born in Windsor, Conn., in March, 1778. For thirty years he practiced medicine in Delaware county, N. Y. He is said to have been a skillful and distinguished physician, pursuing its arduous duties with untiring industry, and abundant success.

Death of George F. Turner, M D.—Died of yellow fever, at Corpus Christi, on the 17th of October, Dr. G. F. Turner, Surgeon of U. S. Army, aged 40 years. The deceased was a distinguished member of the Medical Corps of the U. S. Army. His contributions

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* *Biographical Sketch of the Medical Profession of Broome County, N. Y.* Read before the Broome County Medical Society at its Annual Meeting, October 7th, 1851. By S. H. French, M. D., President of the Society. Binghamton, 1854, 8vo. pp. 63.

to medical literature were not numerous. In the first volume (*New Series*) of this Journal, may be found an exceedingly interesting article from his pen, on *Epidemic Miliary Fever*, as observed at Fort Snelling, Upper Mississippi, in the winter of 1847–48.

Death of Dr. William Turk, U. S. N.—Died in Newark, N. J., on the 20th of November, Dr. Turk, aged 77 years. He was born in the City of New York, and graduated in Columbia College, in the Class of 1796. In 1800 he entered the U. S. Navy as surgeon's mate, and in 1813 was appointed surgeon, and was engaged in active service during the war. He was the oldest surgeon, but two, on the Navy List, and was much beloved and respected by a large circle of friends.

Death of Dr. Robert Semple.—Dr. Semple died at his residence, fourteen miles south of Colusa, California, on the 25th of October last, from injuries received by a fall from his horse. He was well known to many of the earlier residents of California, having emigrated from Kentucky, across the plains, in 1845. After having taken a prominent part in the Bear Flag revolution in that year, he located at Benecia. He was a delegate to the convention for the formation of a State Constitution, in August, 1849, and was unanimously chosen President of that body. He, in company with Walter Colton, established the first newspaper in California, at Monterey, in 1846.

Death of Samuel Parkman, M. D.—Died in Boston, on the 15th of December, Dr. Samuel Parkman. He was a graduate of the Medical Department of Harvard University, in 1838, and for a number of years he was Demonstrator of Anatomy in that Institution. He was also, for some time, one of the surgeons of the Massachusetts General Hospital.

Death of Dr. Golding Bird.—Died at Tunbridge Wells, on the 27th of October last, Golding Bird, M. D., F. R. S., aged thirty-eight years. For some months previous to his decease, his failing health had obliged him to relinquish all his professional duties. He had long suffered from an affection of the heart, but the immediate cause of his death arose from kidney disease. He has thus fallen a victim to a malady, the elucidation of which has rendered his name distinguished among the promoters of strict science in Medicine. We need hardly add, he was the well-known writer on *Urinary Deposits, etc.*

Death of Dr. G. L. Roupell.—Died of Cholera, in London, on the 29th of September last, George Leith Roupell, M. D. He was Senior Physician to St. Bartholomew's Hospital, and one of the most eminent, accomplished, and high-minded practitioners of the English Metropolis.

Death of Prof. Lallemand.—Died recently, at Marseilles, M. Lallemand. He was formerly Professor of Clinical Surgery at the University of Montpellier, but was particularly distinguished by his admirable writings on the *Diseases of the Encephulon, on Spermatorrhœa*, and last, though not least, his *Clinique Medico-Chirurgicale.*

MEDICAL JOURNAL ADVERTISER.

☞ TERMS FOR ADVERTISING.—*Ten dollars per page. Medical Circulars, and Catalogues of Medical Books, stitched in on reasonable terms.*

NEW YORK ACADEMY OF MEDICINE.

PRIZE ESSAY.

The undersigned, a committee appointed by the New York Academy of Medicine, hereby give notice that a prize of one hundred dollars will be awarded to the author of the best essay on the subject of Cholera Infantum. Each communication must be accompanied by a sealed packet containing the name of the author, which will be opened only in the case of the successful competitor. Unsuccessful communications will be returned, on application after April 1st, 1856.

Communications must be addressed (post-paid) to the chairman of the Committee, Dr. Joseph M. Smith, 11 East Seventeenth street, New York, on or before the 1st of January, 1856.

JOSEPH M. SMITH, M. D., Chairman. ISAAC WOOD, M. D., H. D. BULKLEY, M. D., JOHN W. CORSON, M. D., S. S. PURPLE, M. D.

NEW YORK, Feb. 23d, 1855.

Editors of Medical Journals in the United States are respectfully requested to copy the above.

UNIVERSITY OF NEW YORK.

MEDICAL DEPARTMENT.

SESSION, 1855.

SPRING, SUMMER AND AUTUMN COURSE OF LECTURES.

The Medical Faculty of the University of New York, with a view of increasing the facilities for Medical Education, without increasing its expense, instituted, in 1852, a Spring, Summer, and Autumn Course of Lectures, which will commence the present year on the 19th day of March, and be continued to the 15th day of October, when the usual Winter Lectures will be resumed.

The opportunities which are thus offered to the Medical Student in this vast metropolis are not surpassed by those of Paris. What is there seen may be found here, and in an abundance that exceeds any amount of industry. The season is also more favorable than the winter for Hospital and Dispensary pursuits, and the Student's time is less occupied by Lectures, or may be given at his own pleasure to those practical objects, since this course is not necessary to the Degree of Medicine.

TERMS OF ATTENDANCE.

There has been a very laudable desire in the Profession to extend the term of instruction at the Medical Colleges, in which the Faculty of the University has heartily sympathized; but it has been found impracticable, to any large extent, as a requirement from Medical Students. There are many, however, whose means are sufficiently ample to defray the expense of a long residence in this city, if not subjected to the additional payment of fees for instruction; and, although the Spring, Summer, and Autumn Course be not required, its advantages are too evident for any further explanation.

Students who shall have attended the Winter Course of Lectures will be admitted to the Spring, Summer and Autumn Course, *free of charge.* Those who have not attended the Winter Session will be admitted on payment of the Matriculation fee and $25; and should they decide on becoming pupils of the University for the Winter Course ensuing, the $30 thus paid will be credited to them on taking out their tickets for that course. The student will, therefore, gain in this manner seven months' instruction, free of cost.

Graduates who may have attended the optional course will have conferred on them a Certificate of Honor, as an evidence of their having pursued a fuller course of Medical instruction than that usually followed by Students.

FACULTY OF MEDICINE.

REV. ISAAC FERRIS, D.D., LL.D., CHANCELLOR OF THE UNIVERSITY.

VALENTINE MOTT, M. D., LL. D., Emeritus Professor of Surgery and Surgical Anatomy, and Ex-President of the Faculty.

MARTYN PAINE, M. D., LL. D., Professor of Materia Medica and Therapeutics.

GUNNING S. BEDFORD, M. D., Professor of Obstetrics, the Diseases of Women and Children, and Clinical Midwifery.

JOHN W. DRAPER, M. D., LL. D., Professor of Chemistry and Physiology.

ALFRED C. POST, M. D., Professor of the Principles and Operations of Surgery, with Surgical and Pathological Anatomy.

WILLIAM H. VAN BUREN, M. D., Professor of General and Descriptive Anatomy.

JOHN T. METCALFE. M. D., Professor of the Institutes and Practice of Medicine.

LECTURERS APPOINTED BY THE FACULTY.

CHARLES E. ISAACS, M. D., Surgical Anatomy, and the Use of the Microscope.

PHILIP A. AYLETT, A. M., M. D., Physiology and Therapeutics.

JOSEPH C. HUTCHINSON, M. D., Functional and Organic Diseases of the Uterus.

THOMAS C. FINNELL, M. D., Pathological Anatomy.

G. C. E. WEBER, M. D., Embryology and Obstetrical Operations.

CHARLES E. ISAACS, M. D., Demonstrator of Anatomy.

GEORGE A. PETERS, M. D., Prosector to the Professor of Surgery.

ALEXANDER B. MOTT, M. D., Prosector to the Emeritus Professor of Surgery.

JOHN W. DRAPER, M. D., LL. D., President of the Faculty.

COURSE OF INSTRUCTION.

Lectures will be delivered on Pathological and Microscopic Anatomy; Physical Diagnosis and Diseases of the Chest; Surgical Anatomy of the Genito-Urinary Organs; Physiology and the Institutes of Medicine; Diseases of the Uterus; Anatomy and Diseases of the Eye; Embryology, with Obstetric Surgery; Therapeutics, etc. Lectures will also be given on Materia Medica, Medical Jurisprudence, etc.

In addition to the above there will be five Cliniques held each week in the College Building, as follows:

1st. *An Obstetric Clinique* every Monday from 2½ to 4½ o'clock, P. M.,

by Prof. Bedford. This clinique was first established by Professor Bedford in October, 1850, and from that time it has met with constantly increasing success. More than 8,000 cases of the most interesting diseases of women and children have been presented at it. So great are the facilities of the city of New York in this respect, that it may be truly said nowhere else do such opportunities exist for the study of this department.

2d. *Surgical Clinique* every Tuesday from 2½ to 4½ o'clock, P. M., by Prof. Mott. The following are among the operations performed at this Clinique to the middle of January of the Session now in progress: Ligature of right Carotid for Aneurism by Anastomosis of Face—child 6 mos. old. Ligature of left Carotid for Fungus Hæmatodes of eye-ball—girl 7 years old. Ligature of both Carotids for Malignant Disease in Neck and Eye—girl 15 years old. Two Extirpations of Eye for Malignant Disease. Scirrhous Tumors of Female Mammæ. Lipomas. Three cases of Fistulas in Ano. Glandular Tumors of Neck exsected. Burns and Scalds. Gunshot Wound in Axilla. Two cases of Spina Bifida. Twelve cases of Nævus. Three cases of Fracture of Fore-arm. One case of Fracture of Head of Femur. One Fracture of Nose. Three cases of Fracture of Leg. Two cases of Fracture of Ribs. Four cases of Dislocation of Shoulder. One case of Fracture of Cranium, with depression. Three cases of Cancer of the Tongue. Seven cases of Cancer of Lip operated on. Three cases of Polypus of Nose. Removal of Upper Jaw for Disease of Antrum. Several cases of Hernia. Four cases of Fissure of Anus. Six cases of Hæmorrhoids. Ten cases of Hydrocele. Two cases of Cirsocele. Nine cases of Club Feet. Six cases of Amputation of Finger. Two cases of Fistula Lachrymalis. Two cases of Ectropion. Twenty cases of Ulceration of Cornea. Cases of Granulated Lids. Five cases of Operations for Strabismus. Ten cases of Abdominal Tumors. Thirty cases Varicose Ulcers of Leg. Twenty cases of Paronchia.

3d. *Medical Clinique* every Wednesday, from 2½ to 3½ o'clock, P. M., by Professor Metcalfe. This clinique is full of interest from the great number of cases of miscellaneous disease presenting itself. During the present winter session several hundred cases of Consumption, Heart Disease, Aneurism, Pleurisy, etc., have been examined by the Students. The Clinical Class is divided into sections, each of which examines, at leisure, in a room provided for the purpose, the lungs, heart, etc., of patients in whose cases a written record of physical signs has been previously dictated before the class by the Professor, and serves as a guide during the examination.

4th. *Surgical Clinique. with the Diseases of the Genito-Urinary Organs*, every Wednesday from 3½ to 4½ o'clock P. M., by Prof. Van Buren. This Clinique will, independent of its general Surgical practice, afford ample opportunities to study that interesting class of diseases appertaining to the genito-urinary organs.

5th. *Surgical Clinique* from 11, A. M., to 1 o'clock, P. M., every Saturday, by Prof. Post.

Since the last Session, Dr. Post's Surgical Clinique has been very fully attended, and has presented more than the usual variety and interest. Among the more important operations are the following: Lithotrity has been performed 15 times; Lithotomy once. Also a number of cases of Hare-lip; Fistula in Ano; Nasal Polypi; Strabismus; Hydrocele; Club Foot; Tumors, etc., and a variety of other operations.

HOSPITALS, ETC.

The New York Hospital, of which Professors Mott and Post are consulting Surgeons, Professor Van Buren an attending Surgeon, and Professor

Metcalfe an attending Physician, is visited daily, and also clinical instruction given.

Bellevue Hospital, the Eye and Ear Infirmary, the various Dispensaries, etc., all of which are open to the Students, present an aggregate of more than 70,000 patients annually. Thus it will be seen from the above sketch of the advantages offered by the city of New York for the pursuit of medical science, that the Faculty are in the ample enjoyment of the means necessary to make the University eminently a school of *practical medicine*, and they pledge themselves to spare no effort to carry out, in its fullest extent, this object.

WINTER SESSION OF LECTURES.

The Session of Winter Lectures will commence on Monday, the 15th day of October, and be continued until the last day of February.

FEES FOR THE WINTER COURSE.

Full Course of Lectures,	$105
Matriculation Fee,	5
Demonstrator's Fee,	5
Graduation Fee,	30

REQUISITES FOR GRADUATION.

1. The Candidate must be 21 years of age.

2. He must have attended two Courses of Medical Lectures; one of which must be delivered in the Medical Department of the University of New York.

3. The Candidate must have studied Medicine for three years (the terms of attending Lectures being included in these), under the direction of a respectable Medical Practitioner.

4. He must write a Medical Thesis, either in the English, Latin, or French Language.

Two Commencements takes place annually in the University, at either of which Candidates who have complied with the above requisitions may graduate.

The first takes place early in the month of March, and the other about the end of June. The great body of the Candidates will, no doubt, graduate at the Spring Commencement; but those who wish to postpone it will have the opportunity of examination in June.

BENEFICIARY FOUNDATION.

For the purpose of assisting meritorious individuals, the Faculty will receive, annually, ten Beneficiaries, who will be required to pay $20 each towards the expenses of the Institution, and the Matriculation Fee. The sons of Physicians and Clergymen, other things being equal, will be considered as having a preferred claim. Those who are desirous of availing themselves of this foundation will present to the President of the Faculty, during the Summer, satisfactory documents showing them to be persons of good moral character, and of appropriate elementary education, and in circumstances which require this assistance.

Students on arriving in town will call at the College, 107 East Fourteenth street, between Irving Place and Third Avenue, and inquire for the Janitor, Mr. Polman, who will provide them with boarding houses.

Letters may be addressed to Professor Draper, President of the Medical Faculty, University, New York.

New York, January 20, 1855.

TO READERS AND CORRESPONDENTS.

☞ The author of each original communication published in this Journal, if desired, will receive twenty copies in sheets, provided a request to that effect be made, upon either manuscript or proof, when handed in. All arrangements for extra copies, in pamphlet form, must be made directly with the printers, Messrs. HOLMAN & GRAY.

☞ Owing to the unexpected length of the leading article in the present number, several original communications have been laid over, and an analytical review of the last volume (XXXVII.) of the Medico-Chirurgical Transactions.

The following works have been received :—

Lectures on Histology, delivered at the Royal College of Surgeons of England, in the Session 1851–52. By JOHN QUEKETT, Resident Conservator of the Museum of the Royal College of Surgeons of England, and Professor of Histology. Vol. II. *Structure of the Skeleton of Plants and Invertebrate Animals.* Illustrated by two hundred and sixty-four wood-cuts. London: Hippolyte Baillière, 219 Regent street, and 290 Broadway, New York. 8vo., pp. 413. (From the Publishers.)

Illustrated Manual of Operative Surgery and Surgical Anatomy. By MM. CH. BERNARD, D. M. P., and CH. HUETTE, edited with notes and additions, and adapted to the use of the American medical student, by W. H. VAN BUREN, M. D., Prof. of Anatomy, University Medical College, and Surgeon to the New York Hospital; and C. E. ISAACS, M. D., Demonstrator of Anatomy, University Medical College, and Consulting Surgeon to the Penitentiary Hospital, Blackwell's Island. Illustrated with steel engravings, from drawings after nature, by M. J. LEVEILLE. Designed to serve as a companion to the ordinary text-books of Surgery. New York: H. Baillière, 290 Broadway, and 219 Regent street, London. Paris: J. B. Baillière, Rue Hautefeuille, 1855. 8vo., pp. 513. (From the Publishers.)

A Manual of Pathological Anatomy. By C. HANFIELD JONES, M. B., F. R. S., Fellow of the Royal College of Physicians, London, etc., and EDWARD H. SIEVEKING, M. D., Fellow of the Royal College of Physicians, London, etc. First American edition, revised, with three hundred and ninety-seven illustrations. Philadelphia: Blanchard and Lea, 1854. 8vo., pp. 733. (From the Publishers.)

An Inquiry into the Pathological Importance of Ulceration of the Os Uteri, being the Croonian Lectures for the year 1854. By CHARLES WEST, M. D., Fellow of the Royal College of Physicians, Physician-Accoucheur to St. Bartholomew's Hospital, London, etc., etc. Philadelphia: Blanchard and Lea, 1854. pp. 88. (From the Publishers.)

☞ *For a review of this work see Sept.* (1854) *number of this Journal.*

Report of a Trial for alleged Mal-practice against DIXI CROSBY, M D., Prof. of Surgery, etc., in the Dartmouth Medical College; in the Windsor County Court at Woodstock, May term, 1854. Verdict for defendant. Woodstock, 1854. (From Prof. DIXI CROSBY.)

Report of the Sanitary Commission of New Orleans, on the epidemic Yellow Fever of 1853. Published by Authority of the City Council of New Orleans. New Orleans, 1854. 8vo. pp. 542. (From Dr. Barton.)

Autobiography of CHARLES CALDWELL, M. D., *with a Preface, Notes, and Appendix.* By HARRIOT W. WARNER. Philadelphia: Lippincott, Grambo, & Co., 1855. 8vo. pp. 454. (From the Publishers.)

Puerperal Fever as a Private Pestilence. By OLIVER WENDELL HOLMES, M. D., Parkman Professor of Anatomy and Physiology, in Harvard University. Boston: Ticknor & Fields, 1855. 8vo. pp. 60. (From the Author.)

What to Observe at the Bed-side and after Death in Medical Cases. Published under the Authority of the London Medical Society of Observation. Second American from the second and enlarged London edition. Philadelphia: Blanchard & Lea, 1855. 12mo. pp. 228. (From the Publishers.)

Annual Reports of the Commissioners and Superintendent of the Indiana Hospital for Insane, to the General Assembly, November, 1854. Indianapolis, 1854. 8vo. pp. 74. (From Dr. Athon.)

Twelfth Annual Report of the Managers of the State Lunatic Asylum. Transmitted to the Legislature January 17th, 1855. Albany, 1855. 8vo. pp. 48. (From Dr. Gray.)

Reports of the Trustees and Superintendent of the Butler Hospital for the Insane. Presented to the Corporation at their Annual Meeting, January 24th, 1855. Providence, 1855. 8vo. pp. 31. (From Dr. Ray.)

Medical Science, or Disease a Unit. By H. BACKUS, M. D., of Selma, Ala. Selma, 1855. 8vo. pp. 45. (From the Author.)

Report of the Board of Health of the City of Brooklyn, December, 1854. Brooklyn, 1854. 8vo. pp. 17. (From Dr. Hutchison.)

Annual Report of the Superintendents of the Poor of the County of Kings, for the year ending July 31st, 1854. With accompanying Documents. Williamsburgh, 1854. 8vo. pp. 47. (From Dr. Tucker.)

The Transactions of the New York Academy of Medicine. Vol. I., Part 3, containing a Report on Solidified Milk, by the Standing Committee on Public Health and Legal Medicine. New York, 1855. 8vo. pp. 11. (From the Academy.)

Anniversary Discourse before the New York Academy of Medicine, delivered in Clinton Hall, November 22d, 1854. By JOHN H. GRISCOM, M. D. Published by order of the Academy. New York, 1855. 8vo. pp. 58. (From the Academy.)

The Transactions of the New Hampshire Medical Society. (Sixty-fourth Anniversary.) Held at Concord, June 6th and 7th, 1854. Concord, 1854. 8vo. pp. 56. (From Dr. Hubbard.)

☞ We are in receipt of our usual exchange Journals.

☞ Communications intended for publication, and Books for Review, should be sent, *free of expense,* directed to Drs. Purple and Smith, Editors of the New York Journal of Medicine, 183 Hudson-street, *New-York.* Persons at a distance may direct parcels, or exchanges, *paid* as above, under cover, to M. J. B. Baillière, Rue Hautefeuille, *Paris;* or H. Baillière, 219 Regent-street, *London;* or Lindsay & Blakiston, *Philadelphia;* or Ticknor & Co., *Boston.* The attention of Correspondents is respectfully requested to the above, as the Publishers are frequently subjected to unnecessary expense for postage and carriage.

All remittances of money and letters on the *business* of the Journal, should be directed to the Proprietors.

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